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Chicago Truck Show a Forerunner of Big Business for 1919

Dealers Confident of the Future. Look Forward to Great Development of Rural Transportation by Motor Truck. Farmers Show Unusual Interest in Trucks at Show

By A. V. COMINGS

CHICAGO'S first motor truck show since 1914, staged at the Coliseum and First Regiment Armory, came to a close on the evening of February sixth, after four days of the most successful exhibition of its kind ever offered the American public. Staged under the auspices of the Chicago Automobile Trade Association, the show was national in everything but name, for almost every line of trucks manufactured in the United States was represented. Trailers and semi-trailers, too, and all of the husky truck accessories that have had a part in the making of motor trucks, were on exhibition, and the influence that the big show will have on the entire midwestern trade is bound to be tremendous.

There was, in the atmosphere of the show, none of the enthusiastic elation which marked the "come back" of the passenger car industry after the period of war depression, markedly in evidence at the passenger car show the week before. On the contrary, there was in the air a feeling of calm confidence in the future of the truck industry, a feeling engendered by the magnificent accomplishments of the motor truck during the war period.

Thoroughly Satisfied From a Business Standpoint

Manufacturers, distributors and dealers expressed themselves without hesitation as being thoroughly satisfied with the show from a business standpoint, for while the attendance did not compare in numbers, of course, with the attendance at the passenger car show, nevertheless those who entered the doors at the Coliseum during the truck week were of the kind that were deeply interested from a strictly business point of view, and were there either to buy, to secure agencies, or to investigate different models with a view to quantity buying in the future.

While in the main the exhibits were made by the Chicago agents or distributors of each truck, the factory representatives were on hand in force. Executives and sales representatives were on hand during the entire show, and many dealer contracts were placed, looking to wider distribution of almost every make of truck exhibited.

The show was not remarkable for anything new in the truck line. As a matter of fact, however, the building of motor trucks in this country has become so standardized that new and startling features in future shows will be few and far between.

More than the usual interest attached to some of the trailers and semi-trailers exhibited, the latter showing several new designs which will doubtless come into general use in the near future.

The accessory section in the balcony of the Coliseum was well filled, most of the well-known manufacturers and some new ones exhibiting.

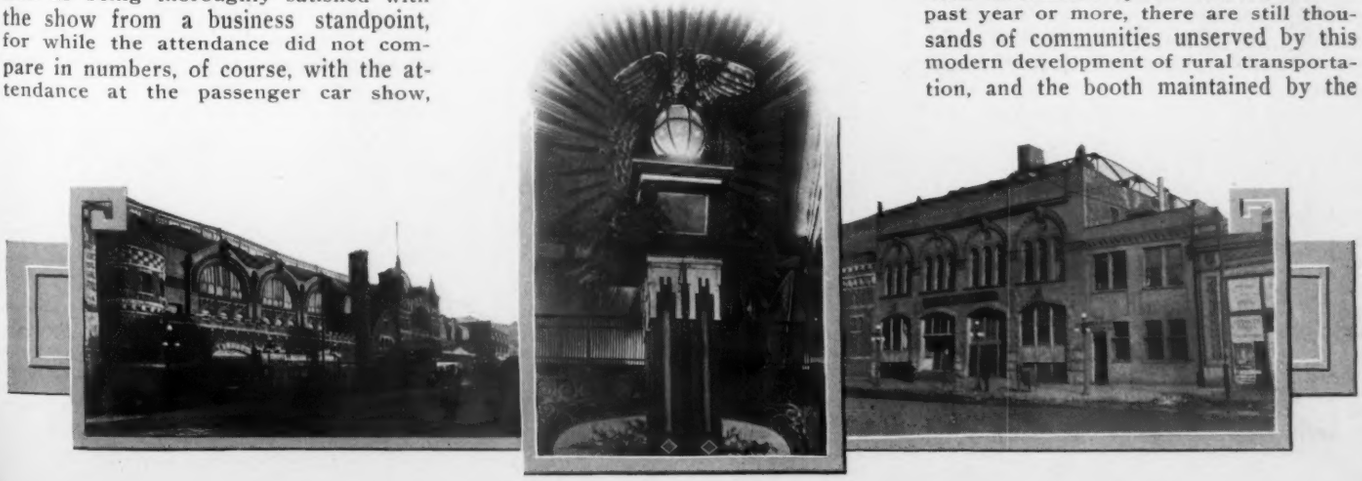
If truck dealers and manufacturers had entertained any doubts previous to the Chicago show as to the interest the country is taking in the post-war development of rural transportation by motor truck, and in the interest the farmer is taking in the commercial car, the show served to open their eyes beyond question.

Country Dealer Was Much in Evidence

There was no doubt as to the identity of many who came to the show from all over the middle west, who showed in dress and manner and speech that they were of the soil, and who further showed unmistakably that they were mighty familiar with motor trucks, that they either had one and were interested in more, or that they intended soon to buy the first of their eventual fleet of motor vehicles. With them came the country dealer, who was more in evidence at this show than at any previous exhibition of the same sort.

Several manufacturers' representatives told me that never before has the farmer prospect been so much in evidence at truck shows, and the interest taken in commercial cars by this type of buyer points to a great market among farmers in the next few years. The truck has been so successful on farms throughout the country that the up-to-date farmer finds his farm is not complete unless it has this modern motor vehicle as part of its equipment.

While rural motor express routes have been established by the hundred in the past year or more, there are still thousands of communities unserved by this modern development of rural transportation, and the booth maintained by the



National Automobile Chamber of Commerce to disseminate information during the show, found much interest centering in its efforts. F. W. Fenn, secretary of the Rural Motor Express committee of the Chamber, was in charge of the booth, and he not only gave out thousands of pamphlets and books on the subject, but secured invaluable publicity for this feature of motor truck development in Chicago newspapers during the show week. All this will have its effect, and though rural motor express service undoubtedly owed a part of its rapid development to war impetus, credible speed, munitions transported to the front in unbelievable quantities, impossible building operations made possible, crops moved to market over highways, manufacturing speeded up through quick transportation of raw material and parts. And the result of all this big accomplishment was evidenced at the Chicago show in the quality of the attendance during the four days.

In addition to the trucks and trailers shown, a naval airplane exhibit was staged in the Armory. This consisted of a huge seaplane as a central figure, and around it were grouped various types of was staged, is to be congratulated on the splendid showing it made with this truly national event. Samuel A. Miles, who has managed the Chicago national show for years, acted in the same capacity for the Chicago Trade Association, and he was ably assisted by Timothy Beard, executive secretary of the Chicago organization. The officers of the Chicago Automobile Trade Association are as follows:

George H. Bird, of the Bird-Sykes Co., is president; C. R. Dashiell, vice-president; Thomas J. Hay, secretary and Henry Paulman, treasurer.



The Men Who Put the Chicago Dealers' Show Across

nevertheless the service is grounded in the real need of rural districts for quick and dependable transportation from farm to city, and its future growth to almost unbelievable proportions is absolutely assured.

Truck manufacturers say that the war has had no great effect on the design of motor trucks. But the Chicago show brought out this fact, the war has had a tremendous effect in bringing the motor truck as an institution, close to the American public, and the business man and the farmer, who, previous to the war, were not "sold" on the motor truck as a dividend producer in the transportation end of their business, now look upon it from a very different viewpoint. For the war interpreted the motor truck to them in terms of troops moved with in- the Liberty airplane engine, together with several of foreign make.

The decorations for the truck show were the same as those used in the passenger car exhibition of the previous week. Purple and gold were the predominant colors. The huge arches that support the Coliseum roof were completely hidden by panelled hangings in purple and gold, with large shields forming a border around the lower edge, on each of which was shown some type of commercial or passenger car.

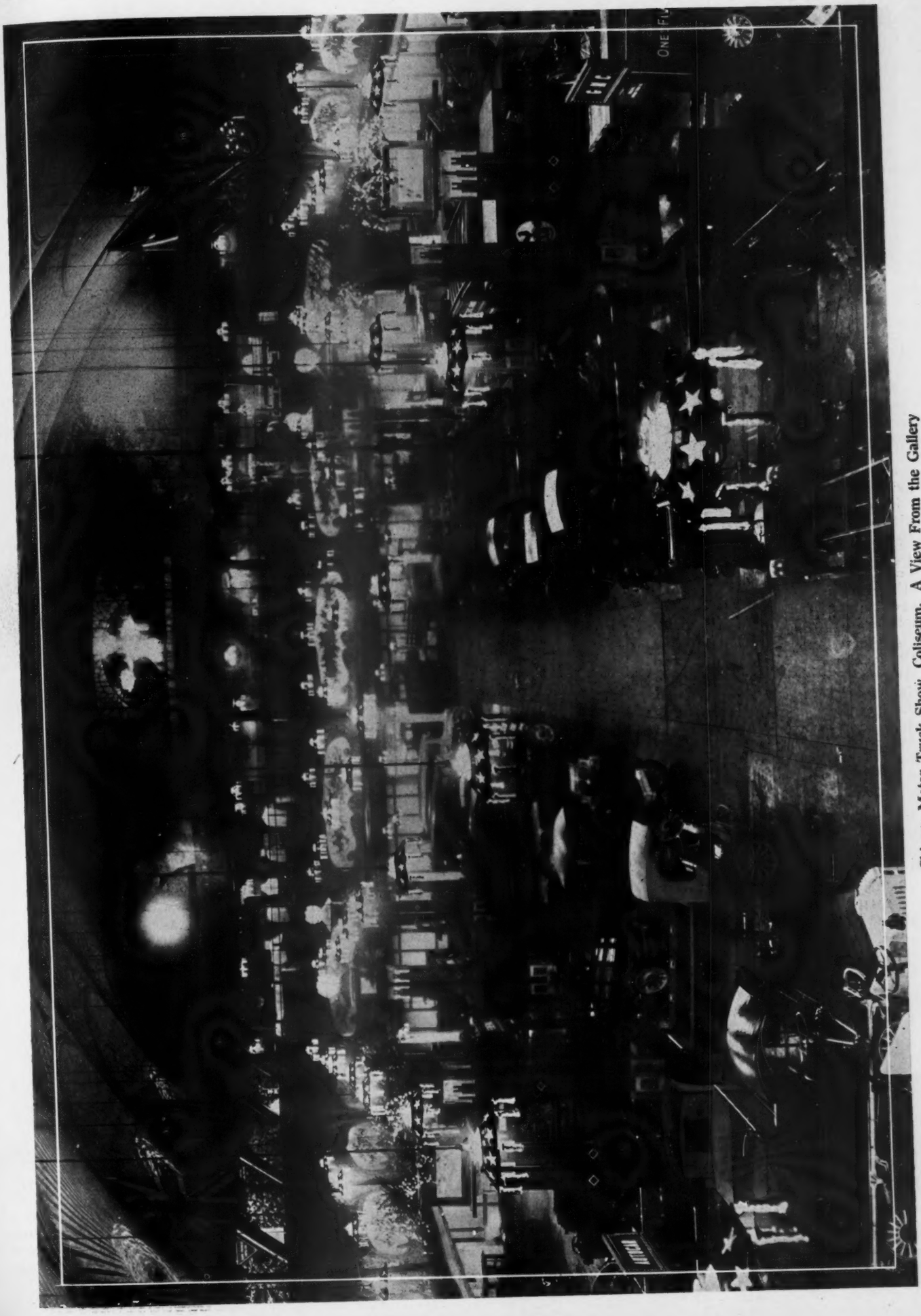
The hanging lights from the arched ceiling were shaded by artistic, tasseled shades in purple and gold, giving a beautiful effect as one gazed down the big hall.

The Chicago Automobile Trade Association, under whose auspices the show

The association's show committee, in addition to the officers, consisted of J. F. Davis, Winton distributor in Chicago; John Nicol, who distributes Federal Trucks, and W. L. O'Neill, secretary and treasurer of the Stromberg Motor Devices Co.

During the show many manufacturers and parts builders maintained headquarters at various hotels in the loop district, and downtown Chicago, as well as that part of it adjacent to the Coliseum, knew that the truck show was in progress.

So successful was the show that there is little doubt that with the growth of the industry each year will see a similar show. There was evidence a-plenty that 1919 will be a banner year with the truck manufacturers, most of whom are planning larger output than ever before.



Chicago Motor Truck Show, Coliseum. A View From the Gallery

A Review of Chassis Models and Complete Body Jobs That Were Shown at the Chicago Truck Show

Note: For complete specification of trucks built in the West and models of which are listed below, consult the Buyers' Information Review in this issue. Eastern truck specifications have been published in our January, 1919, issue

Acason: Represented by Seth C. Earl, 4012 Michigan Ave., Model B, 1-ton chassis; and 5-ton dump body job listing at $6100. All 1919 Acasons will be shipped with chassis painted. The color is a pigskin brown (some call it khaki) striped a dark brown and trimmed a brilliant red. The specifications are changed very little except for minor improvements. The Boyce Motometer is now included as standard equipment.

Acme: Represented by the factory—Acme Motor Truck Co., Cadillac, Mich. Feature of this exhibit was the new five-ton chassis having a 4¾ by 6 Continental Red Seal engine; 9-in. frame, etc. A 2-ton standard stake body job and a 3½-ton chassis carrying a 1000-gal. water tank completed the display. The latter job was fitted with a Blackmer rotary pump which operated from the transmission and made it possible to load or discharge the tank in 9 minutes. The standard color of the Acme is blue.

All-American: All-American Truck Co., Sacramento Blvd., featured its Model A one-ton chassis listing at $1295, in two body models, a farm body and a standard stake job.

Autocar: Autocar Sales & Service Co., 913 Jackson Blvd., displayed the Autocar chassis with a number of bodies including the contractor's steel dump body, Goodyear equipped, standard Chicago stake body, soft coal dumping body, and standard job used by the Wilson Co.

Available: Available Truck Co., 1501-49 N. Kilpatrick Ave., two models were displayed; 2-ton and 3½-ton. The complete line includes a 5-ton job. All are equipped with Continental engines, Brown-Lipe transmissions and other well known standard parts.

Bethlehem: Chicago Bethlehem Sales Co., 2241 Michigan Ave., showed the 1½, 2½ and 3½-ton job with a variety of bodies. A feature of the exhibit was a chassis all done up in white; also a rear axle mounted on a pedestal.

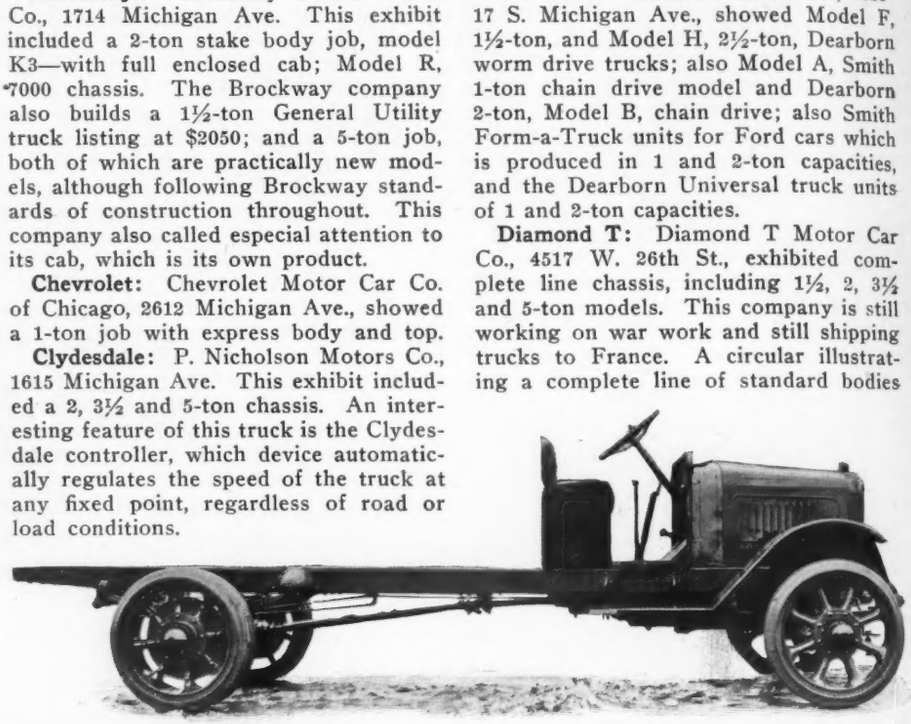
Brockway: Brockway Motor Truck Co., 1714 Michigan Ave. This exhibit included a 2-ton stake body job, model K3—with full enclosed cab; Model R, 7000 chassis. The Brockway company also builds a 1½-ton General Utility truck listing at $2050; and a 5-ton job, both of which are practically new models, although following Brockway standards of construction throughout. This company also called especial attention to its cab, which is its own product.

Chevrolet: Chevrolet Motor Car Co. of Chicago, 2612 Michigan Ave., showed a 1-ton job with express body and top.

Clydesdale: P. Nicholson Motors Co., 1615 Michigan Ave. This exhibit included a 2, 3½ and 5-ton chassis. An interesting feature of this truck is the Clydesdale controller, which device automatically regulates the speed of the truck at any fixed point, regardless of road or load conditions.

Dearborn: Dearborn Truck Co., 2015-17 S. Michigan Ave., showed Model F, 1½-ton, and Model H, 2½-ton, Dearborn worm drive trucks; also Model A, Smith 1-ton chain drive model and Dearborn 2-ton, Model B, chain drive; also Smith Form-a-Truck units for Ford cars which is produced in 1 and 2-ton capacities, and the Dearborn Universal truck units of 1 and 2-ton capacities.

Diamond T: Diamond T Motor Car Co., 4517 W. 26th St., exhibited complete line chassis, including 1½, 2, 3½ and 5-ton models. This company is still working on war work and still shipping trucks to France. A circular illustrating a complete line of standard bodies and giving information needed for the construction of special bodies was distributed at the show.

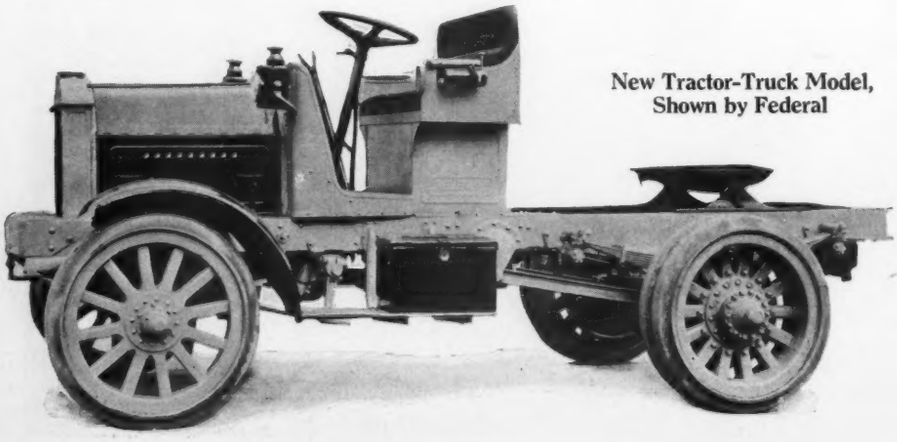


Republic Model 19, a New Product of the Republic Motor Truck Company

Commerce: Commerce Motor Car Co., Detroit. Two models were shown by this company. An express body job, 1-ton capacity, listing at $1500 for the chassis. The 1½ to 2-ton chassis fitted with 36 x 6 pneumatics lists at $1895.

Couple Gear: Couple Gear Power Truck Co., People's Gas Bldg., showed a Couple Gear Model FA, 4-ton job, also a set of parts showing the construction of the wheel driving mechanism. This company also has the agency for the Elwell-Parker Electric Industrial tractor, a model of which was on exhibition.

Day-Elder: Day-Elder Motors Corp., Newark, N. J., exhibited four chassis; 1-1½, $1775; 1½-2, $2075; 2-2½, $2450; 2½-3, $2750.



New Tractor-Truck Model, Shown by Federal

Dorris: Dorris Motor Car Co., St. Louis, Mo., showed the 2-ton worm drive model also a new model K-7, a 3½-ton capacity, listing at $3800 for the chassis. The new model follows the same specifications as the 2-ton model with the exception of a 2-in. deeper frame, heavier axles and springs, 22-in. Ross steering gear, and Smith steel wheels fitted with 36 x 5 front and 36 x 10 solids rear. Either model can be equipped with electric starting and lighting system, at $175 extra, and $75 extra for cab.

Federal: John Nicol Co., 2100 S. Wabash Ave., displayed a 2-ton chassis at $2750, 3½-ton stake and platform body $3900, a 5-ton dump body, $5400, and a new tractor-truck. A display stand carrying photographs was one of the attractions of this exhibit.

Ford: Ford Motor Co., 39th St. & Wabash Ave., showed a stake job at $747 and a panel at $730.

Fulton: Fulton Motor Truck Co., Farmingdale, L. I., N. Y., showed the well known Fulton 2-ton chassis and a new tractor truck, and a 3½-4-ton trailer.

F. W. D.: Four Wheel Drive Auto Co., Clintonville, Wis., displayed a 3-ton model with engine operating by means of electric motor. The transmission was also uncovered so as to show the principles of operation of the four-wheel

drive. One of the features of the exhibit was the fire truck, one of the most complete outfits of its kind. This truck was equipped with Northeast two unit type electric starter and a complete lighting outfit.

Garford: Garford Motor Truck Co., 23rd & Indiana Ave., showed four complete body jobs, one chassis and a six-ton 105-in. truck. The 1-ton chassis was fitted with express body and cab, the 2-ton with rack body and cab, the 3½-ton with dump body, operated by Woods hydraulic hoist. This model displayed a set of road roller wheels, which are demountable and fit over the solid tires, extending about six inches either side of the tire. An illustration of this wheel is shown elsewhere in this issue. An engine mounted on a stand occupied the center of the exhibit. One of the dump body jobs operated by the electric motor attracted considerable attention.

Gary: Gary Motor Truck Co., Gary, Ind., exhibited Model H, 2-ton chassis done in white. This model is fitted with 40 x 8 Goodyear pneumatics. This company also builds 2½ and 3-ton models.

G. M. C.: General Motors Truck Co., 2247 Prairie Ave., showed their ¾, 1, 1½ chassis with Armour open express body and 3½-ton job with Morris & Co. open express body.

Graham: Dashiell Motor Co., 2412 Michigan Ave., displayed a line of Graham truck units, as well as the Dodge chassis, one chassis being fitted with screen body and solid panel body.

Indiana: Roamer Motor Car Co., 2240 Michigan Ave., showed a complete line of chassis.

Kissel: H. B. Branstetter, 50 E. 26th St., showed 1½-ton and 2-ton chassis, the latter fitted with large pneumatics.

Master: Master Truck, Inc., 2132 Wabash Ave., showed Master 5-ton truck carrying a 1½-ton junior as a display feature. Other models on exhibition were as follows: 2-ton beverage wagon, closed body; 2-ton stake body; 2-ton chassis; 1½-ton chassis with Torbensen internal gear axle, also Foley traction rim made by the Foley Traction Rim Co., Minneapolis, Minn. This was shown separately mounted on a stand, and is furnished as extra equipment. This company is rapidly completing its new plant, which will be used exclusively for manufacturing, machining and assembling. The progressive assembling method will be carried out.

Maxwell: Maxwell Sales Co., 2457 Michigan Ave., showed ¾-ton full paneled job, 1½-ton express with canopy top and stakes; 1½-ton chassis in operation and 1½-ton three-way body, which can be transformed into stake, express and cattle body.

Mutual: Mutual Truck Co., Sullivan, Ind. This is a newcomer in the field, a 2-ton job, listing at $2885 for the chassis. Complete descriptive details and photographs will be shown in an early issue. The complete line will include a 2-ton, 3½ and 5-ton chassis.

Nash: Western Motor Car Co., 2431 Michigan Ave., showed the 1-ton Nash chassis; Nash Quad; and the 2-ton Nash Army job complete and a chassis of same.

Nelson: Nelson Motor Truck Co., Saginaw, Mich., showed the 2-ton Jumbo chassis, complete details of which were given in a recent issue. This is a Clark Internal Gear axle job with Buda H2 engine.

Oneida: Lexington Motors Chicago Co., 2909 Michigan Ave., showed four chassis including 1, 2, 3½ and 5-ton models. The 1-ton was also shown with a stake body.

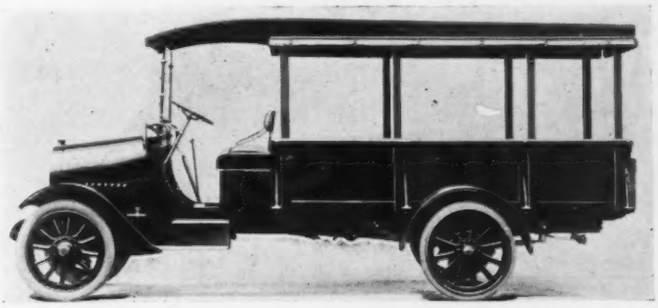
Paige: Bird-Sykes Co., 2215 Michigan Ave., showed the 2-ton stake job, 2-ton chassis and a 3½-ton chassis.

Panhard: Panhard Motors Co., Grand Haven, Mich. This truck is featured by what is known as a twin frame construction, of 5-in. depth, 6½-lb. channel. Three models were shown, 1-ton with New York stake body, 1½-ton chassis and 2½, Model E with a driver's cab. The price of the 2½-ton model is $2350 with driver's seat only, cab extra.

Patriot: Hebb Motors Co., Lincoln, Nebr., showed a 1½ and a 2½-ton chassis, known respectively as the Lincoln and Washington models. This company is planning extensive additions to its factory to take care of its body work.

Pierce-Arrow: H. Paulman & Co., 2420 Michigan Ave., showed the Pierce-Arrow 2 and 5-ton chassis.

Rainier: Service Motor Truck Co., showed Model R2, 1500-lb. chassis listing at $1350, also a complete Type A2 panel job on the same chassis at $1600.



The New Chevrolet One-Ton Job With Express Body and Top.

Reo: Reo Motor Car Co. of Chicago, 1218 Michigan Ave., exhibited the Reo Speedway with a variety of bodies as follows: Express, $1421; panel job, $1730.40; cab and stake at $1447.15; fire truck at $3043.65; hearse in gray at $3475, and a combination grain body with cab at $1502, prices f.o.b. Chicago.

Republic: Republic Motor Truck Co., Inc., Alma, Mich., showed its Model 10 express body and Model 11 chassis, also new Models 19 and 20. The 19 is a 2-2½-ton job, having a four speed transmission. The Model 20 is a 3½-ton chassis fitted with Dayton steel wheels, carrying 38 x 7 and 44 x 10 Firestone pneumatics. The tires are mounted on demountable rims.

Riker: Locomobile Co. of America, 2000 Michigan Ave., showed 3-ton Riker chassis in canary yellow.

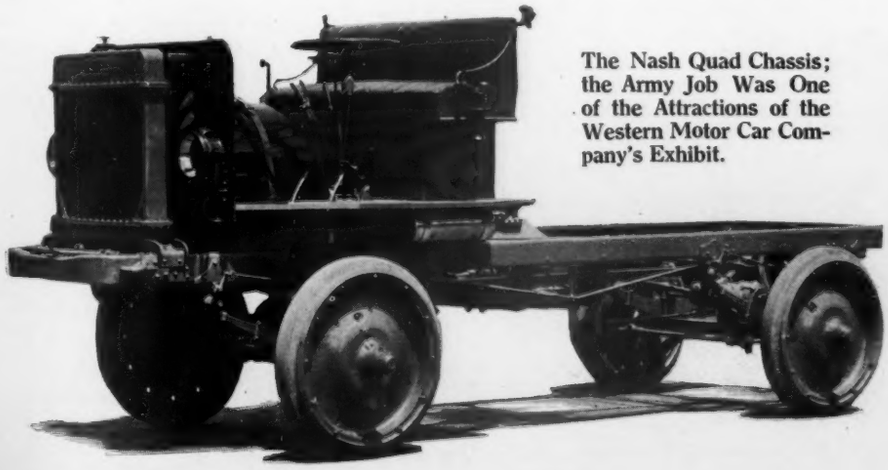
Sandow: Sandow Motor Truck Co., 3333 Grand Ave., showed a 2-ton light special, a 2-ton regular and a 3½-ton chassis.

Sanford: Sanford Motor Truck Co., Syracuse, N. Y., displayed 2½ and 3½-ton chassis.

Schacht: G. A. Schacht Motor Truck Co., Cincinnati, Ohio, showed a 3½-ton coal body and a 5-ton chassis.

Service: Service Motor Truck Co., 2617 Wabash Ave., showed the 2, 3½ and 5-ton chassis, also a 3½-ton chassis with ice cream body, built by Jacob Press Sons, of Chicago. T. F. Hamilton, sales manager of the Service Motor Truck Co., states that they have recently closed a three-year contract with an initial order for 25 sample trucks with Moritani & Co., Ltd., of Tokio, Japan.

Signal: Signal Motor Truck Co., Detroit, Mich., showed two models, a 2-ton chassis at $3100 and a 5-ton at $5100. The complete Signal line includes 1, 1½ and 3½-ton models.



The Nash Quad Chassis; the Army Job Was One of the Attractions of the Western Motor Car Company's Exhibit.

Stewart—Iron City Motors Co., 2337 Michigan Ave., showed its complete line of chassis, including ¾, 1, 1½, 2 and 3½-ton. A 2-ton chassis mounted with a dumping body was also exhibited.

Tower: Tower Motor Truck Co., Greenville, Mich., showed Model G, 3½-ton truck and a Model F, 2-ton chassis. The 3½-ton job is the latest addition to the Tower line.

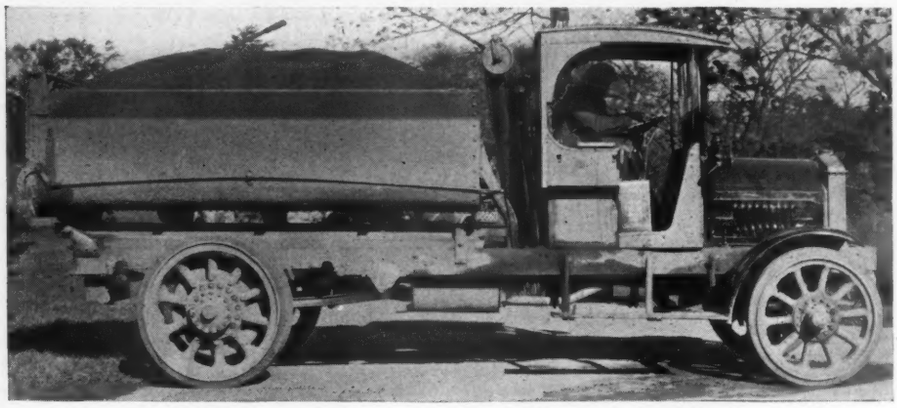
Transport: Transport Truck Co., Mt. Pleasant, Mich., showed its 2-ton, Model 50 chassis, listing at $2585.

Velie: R. C. Cook Co., 2239 Michigan Ave., showed a 2-ton chassis in blue and a 3½-ton job in orange and black.

Highway Trailers: Highway Trailer Co., Edgerton, Wis., exhibited the following models: N4—3-4-tons capacity with brakes; Timken axles and bearings; P4—5-7-ton, four-wheel reversible type and H5—5-ton semi-trailer, fitted with fifth wheel.

Heil Bodies: Heil Co., Milwaukee, Wis., showed a 5 cu. yd., No. 8 gauge steel combination dump body, fully equipped with two sets of side boards, double acting tail-gate and manual tail-gate control.

Troy Trailers: Troy Wagon Works, Troy, Ohio, showed four-wheel 3½-5-ton model with dump body, hand operated hoist, also 2-3-ton four-wheel type.

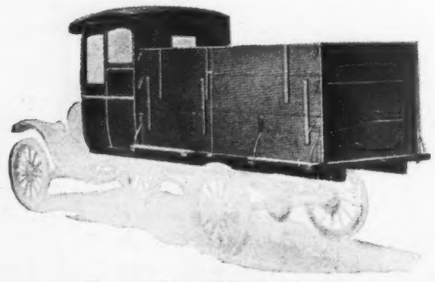


Dump Bodies Were Much in Evidence at the Show. Federal Five-Ton Dump Job

Walker: Walker Vehicle Co., 531 W. 39th St., showed its products in a complete body job and a chassis.

Trailer, Truck Attachments and Body Exhibits

Parry Bodies: Parry Mfg. Co., Indianapolis, Ind., exhibited its all season body, Model 8 for Fords; its Universal Multi-Service body described in a recent issue and a new grain body, No. 630. The latter body is designed especially for hauling loose grain and has a capacity of 65



Parry Grain Body, No. 630

bu. It is also adaptable to a large number of farm uses. The dimensions of the body are 46 in. wide and 96 in. long outside measurements. The inside dimensions are 40 in. wide and 90 in. long.

The top panel is equipped with a chain anti-spreader. Constock end-gate is furnished with this body, which when out, makes a 42-in. opening and lets the loose grain run out into the elevator chute. Two strongly built step boards on each side (front and rear) give easy access to interior of the body.

Lee Loader and Trailers: Lee Loader and Body Co., 2343 S. LaSalle St., showed a drop frame trailer for municipal work for hauling cinders and ashes, etc., also a Lee trailer with double end drop body. A new combination showing a tractor coupled to a dumping trailer was also shown for the first time, details of which will appear in an early issue.

Truxtun: Commercial Car Unit Co., 335 W. 28th Place, exhibited the 2-ton Truxtun with dual wheels and the 1½-ton Dodge attachment.

Hesse Trailers: Wm. G. Hesse & Sons Mfg. Co., Leavenworth, Kans., showed Model 7, 3-ton capacity four-wheel trailer to which was coupled a 4-ton semi-trailer. This outfit is used principally for logging work.

Victor Truck Attachments: Victor Truck Co., Inc., St. Joseph, Mich., showed Victor truck attachment, a Clark internal gear drive job, made in 1, 2 and 3-ton capacities.

Master Exhibit Discloses One and a Half Ton Model

THE Master exhibit at the Chicago show introduced the Master Junior, a 1½-ton truck, representing the latest addition to the Master line, manufactured by the Master Trucks, Inc., of Chicago. Like the 2 and 3½-ton models, it is built along the well-known truck lines and is composed mainly of standardized units, among them being a Buda engine, Timken bearings, Eisemann magneto, Fuller clutch and transmission, Master carburetor, etc.

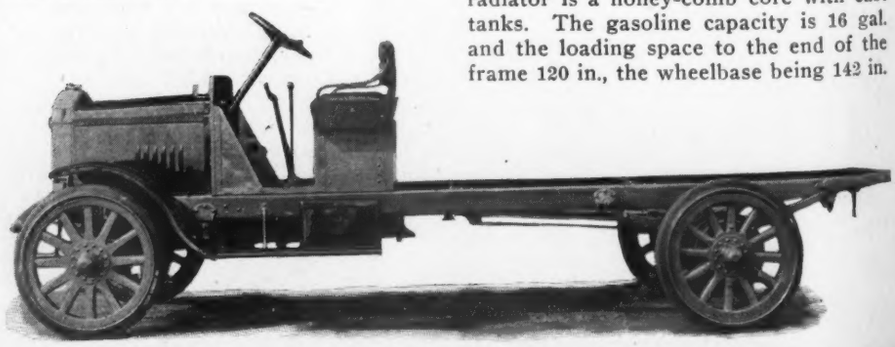
This new Master Junior is offered with internal gear drive at $1890; with worm drive at $1990, the models being known respectively as JI and JW.

The engine is a Buda OU designed for heavy-duty truck service. The bore is 4⅛ in. and the stroke 5½ in. The cylinders are cast in block, L-head type. The power plant, composed of Buda engine and Fuller dry disc clutch and transmission, has three-point suspension. Lubrication is by splash, with plunger pump, and the cooling water circulates by centrifugal pump. The Master carburetor has a governor attached, and an air adjustment on the dash. The Eisemann magneto is of a high tension type, model G-4.

The frame of this new model is pressed steel with spring hangers and cross members hot riveted, the frame section being 5½ in., with a 3¼-in. channel, of 3-16-in. stock. It has five cross members heavily reinforced by gusset plates and a total length of 208 in.

The springs are semi-elliptic, front and rear, the former 44 x 2 in., with 10 leaves, and the rear 52 x 2½ in. with 13 leaves. They are made of alloy steel, heat treated. The front axle is a drop forged I-beam with Timken roller bearings, and the rear is a Torbensen internal gear, or a worm drive axle with Timken roller bearings. The brakes are internal and external on the internal gear drive, and duplex enclosed on the worm drive.

The steering gear is a semi-irreversible worm and split nut type with 18-in. wheel, located on the left with the control levers in the center of the chassis. The wheels are artillery type, second-growth hickory with square spokes, and tires pressed-on type, 34 x 3½ in. on the front, and 34 x 5 in. on the rear. The radiator is a honey-comb core with cast tanks. The gasoline capacity is 16 gal. and the loading space to the end of the frame 120 in., the wheelbase being 142 in.



The Master Junior, One and a Half Ton Capacity

The Trend in Motor Truck Design

By CHESTER S. RICKER

FOR the first time in five years the Motor Truck has graced the stage at the Coliseum at Chicago. A careful survey of the trucks exhibited shows some interesting characteristics in design, but there is the same general feeling both in the trade and among the exhibitors, that while the present designs will prevail during the coming season there are going to be numerous changes before 1920. The present designs are really a continuation of the 1918 design, with additions and refinements. Hence, there are not many big new ideas that can be mentioned.

Prices Very Slightly Advanced

At first consideration the fact that truck prices are only about 10 per cent. higher this year than last brings up the question as to why the increase is so much less than that in the passenger car industry. On analysis this is easy to understand. The truck manufacturer was not under the ban of complete loss of business by January first, as was the passenger car builder. He maintained his production for home consumption nearly up to standard, and if he had war business, did even better. Many of the plants not only made trucks that were practically identical, but were able to do it with little increase in general overhead expense. Hence the only increase in cost was that attendant with the rise in price of both labor and material, and the delays in connection with transportation which naturally increased the cost of all products which had to be bought and shipped in from the outside.

In answer to the question often heard about the show as to the reduction in price of trucks in the near future, I can say, basing my remarks upon several authorities with whom I have talked, that, on account of the reduced production which will follow the curtailment in war trucks, the overhead of factories will probably offset the reduction in cost of materials which may occur this spring and summer.

Army Truck Design

There has been much talk about the influence in design which the Government truck designs would have upon the industry. The consensus of opinion is that the army design is too heavy and too expensive to meet commercial prices. The average user does not demand such severe service from his truck as the Army did, and hence considers it a useless expense both to absorb the increased initial cost and the greater expense of operation of such a heavy vehicle.

The use of the large pneumatic tire, both on the 1½-ton army trucks and upon many of the inter-city trucks that have been introduced to the trade during the past year, is a step in advance which can be credited to the war or the conditions arising from the war.

Large Pneumatic Tires

Large tires are almost prohibitive in first cost and replacement, so many of the purchasers think, but practically every truck man with whom I have talked, provided he had had experience with them, said that they were going to be the greatest boon to the industry that it has ever had. One maker said that he would recommend his truck for a 50 per cent. overload if it was used with pneumatics. That alone would pay for the increased cost of the tires. In addition, he said that they had experienced about 25 per cent. of the trouble with trucks so equipped, as compared with those having solid tires. His is an isolated case, you say? No. Fully a dozen similar ones were cited to me, but they all lack definite data to back them up. The difference in performance, however, is sufficient to make a marked impression on a great many people, and as such it must be of fairly good proportions, for only large differences are liable to impress the casual observer. As the saying goes, "where there is smoke there is usually fire," so, in this instance, as time goes on there will undoubtedly arise data which will confirm the opinions of the many men with whom I have talked during the show.

While every advocate of the pneumatic tire for truck work is enthusiastic in its praise, each one is equally unanimous in his denunciation of the practice of under tiring. The truck is a vehicle which sells upon its ability to earn money for its owner, and it is dangerous to make tires a selling argument, and, in order to keep the price down, use too small a size. If careful consideration is given to obtaining the proper size, then it will be both a business-building asset both for the truck dealer and the user.

Sizes of Trucks

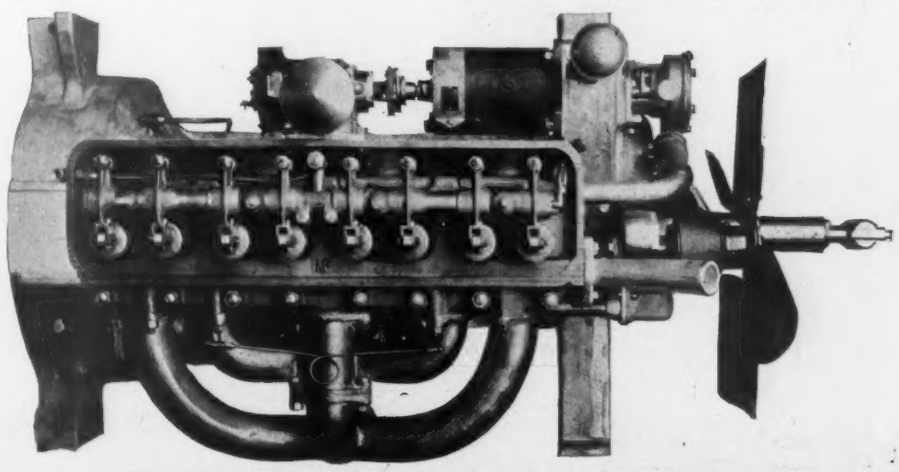
The 3½-ton size seems to be the most common addition to the standard truck lines this year at the show, but when considering the general trend as indicated by a survey of the whole field, both at the show and in the industry, the 2-ton model is showing the greatest popularity.

The most interesting development in truck sizes seems to be in the introduction of the tractor model, such as Federal has just brought out. This is a short frame truck with the same running gear and power plant as is used on heavier vehicles. Some manufacturers use the 2-ton, others a 3 and several their 5-ton chassis. This gives ample engine power for the heavier loads that can be carried in this way on a two-wheel trailer attachment. The two-wheel trailer attachment is exhibited on the Lapeer and Fulton trucks, and the Highway and Lee trailers show models which may be employed in this manner.

Several truck attachments for both Ford and other cars are on exhibition, the Smith, Dearborn, Gramm Bros., and Truxtun being shown. The most interesting phase of this equipment development is found at the Reo booth. They have a 1500-lb. light high-speed delivery truck, and on account of the war work which they have been doing, are unable to build the 2-ton truck which they formerly made. To permit their dealers to enjoy this business they are now offering a converting unit so that their standard ¾-ton chassis may be used for a 2-ton load.

Final Drive

Without exception, almost, the heavier trucks of 3½-ton or 5-ton capacity have an over-head worm drive in the rear axle. The internal gear drive seems to be very popular for rear axles in the lighter trucks. It is steadily gaining ground, judging from the number of trucks so equipped. Very few machines



Dorris Detachable-Head Engine With Overhead Valve Mechanism

were shown with bevel gear drive, and in every case there were less than a ton capacity. The Autocar is the representative of the double reduction rear axle type. The Garford, with a heavy tractor-type machine, had the only chain-driven machine at the show.

Fuel Provisions

With the quality of the fuel steadily decreasing, there is more careful consideration on the part of the truck manufacturer to provide means for positively evaporating the low grade fuel. Hot air intakes for the carburetor, hot water jackets on the manifolds and the more popular "hot spot" combination of intake and exhaust pipes is found on practically every truck engine. This trend indicates the thought that is being given to designing engines and manifolds to take care of the fuel instead of leaving it all up to the carburetor manufacturer. There does not seem to be a unanimity of opinion, however, as to the best form to use. Both the Buda and the Waukesha motor companies had exhibits, and when talking over this fuel problem with their engineers, they both emphasized the need of careful consideration of the design of engine and the lack of an absolute solution at the present time. Both of them approximate ideal conditions, but neither are entirely satisfied with what they have in the face of further depreciation in the quality of fuel which they anticipate.

Engine Design

The only new truck engine design exhibited at the show was upon the Dorris models. This was a four-cylinder, overhead valve engine, with detachable head and completely enclosed valve mechanism. It is the sole representative of the overhead valve power plant in the show. It, together with the Pierce Arrow, Reo, Kissel, Autocar, Riker, Maxwell and G. M. C., is the builder of the engine that is used. The other representative engine builders who supply engines to the trade are represented in numbers in about the following order: Continental, Buda, Wisconsin, Herschell-Spillman, Light and G. B. & S.

Four-cylinder motors are used almost exclusively. One six-cylinder and one two-cylinder are the exceptions. The latter is used in the familiar and unique Autocar design that has carved a niche for itself in the 2-ton field.

The form of the cylinder design seems to be strongly in favor of the L-head. This is probably due to the preponderance of the Continental and Buda engines. Of those manufacturers building their own engines the Pierce-Arrow, Riker and G. M. C. all have T-head cylinders cast in pairs. The Garford uses the T-head Wisconsin, while the Mutual truck uses an L-head engine of the same make. Reo has the only engine with the intake valve opening into the head, and the exhaust located in a pocket at the side. The sixteen-valve White, T-head engine was not exhibited at the show, but it must not be overlooked, as it is one of the features of the truck business. This engine, which was formerly only considered suitable for a passenger car, has proven not only more economical, but more reliable for the heavy duty type of trucks which are built by that company for fire apparatus and cross-country work like the Akron-Boston runs made by the Goodyear Tire Co.

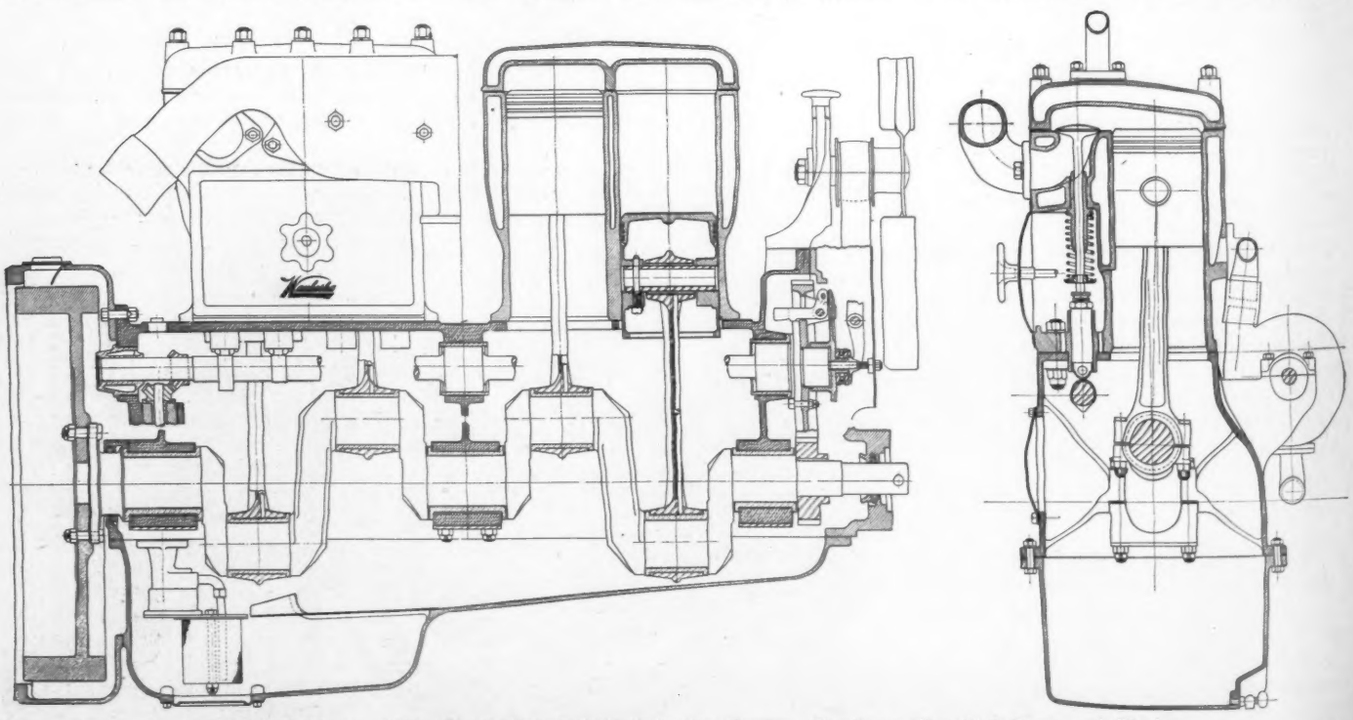
Aluminum Crankcases Used

Despite the cost of aluminum during the past year, the truck makers have almost without exception adhered to separate cylinder and crankcase construction for their engines, so that they might use aluminum crankcases. In some cases where separate cylinders are used, the crankcase is made from cast iron also. More crankcases are provided with an attached bell housing to protect the flywheel and serve as a support for the transmission where that unit is attached to the power plant. A meritorious feature is found on many engines where the oil pan is made separate from the lower part of the bell housing, and when the connecting rods and the crankshaft main bearings have to be tested or adjusted there is no necessity of disconnecting the bell housing from the transmission unit when getting at the bottom of the engine. The engines all have the crankshaft bearings located in the upper portion of the crankcase. Three bearings are used on practically all of the engines, the exceptions being on the six- and two-cylinder types on the Dorris, where five main bearings are provided, and on the Mutual where the four-bearing, four-cylinder Wisconsin engine is used. This design is identical with that used on the Packard trucks.

Lubrication by Force Feed

Force feed lubrication is the most popular type that is found upon the better class of trucks. None of the heavier trucks are without it and most of the medium size trucks have a combination pressure to the main bearings and splash for the cylinders and connecting-rod bearings. Where full pressure feed is provided the crankshaft is drilled so as to lubricate the crank pins with pressure and in several cases the piston pin is also pressure-lubricated by carrying an oil tube up the side of the connecting-rod.

There is less likelihood of dilution of the lubricating oil, as the manifold de-



Sectional Views of the New Model EU Waukesha Engine, Having a 5″ x 6½″ Bore and Stroke. New Model of the Waukesha Motor Company, Waukesha, Wis.

sign is improved so as to take care of the poor fuel used. There seems to be a sad lack of attention to crankcase draining facilities. On very few motors can the drain plug be reached without first removing a sod pan.

Cooling Systems

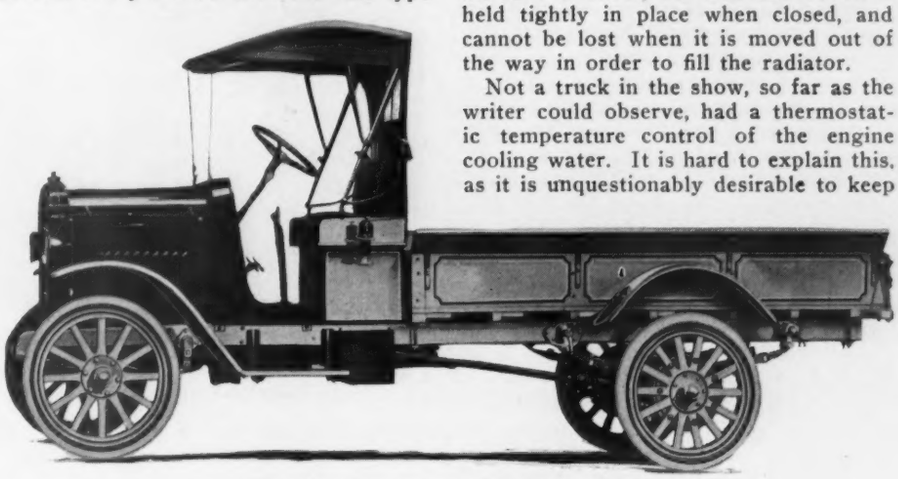
For trucks up to one-ton capacity there seems to be little reason for a water pump to circulate the water, and so thermo-syphon cooling is practically standard. Above this size, however, centrifugal water pump circulation is used almost exclusively. The water pumps are in every case placed where they can be conveniently reached, for the adjustment of the packing glands. On some models of the Buda engine and on the new Dorris it is possible to quickly remove the entire water pump as a unit if desired.

There has been a rather interesting development in radiator construction in the past few years. Instead of building radiator supports that would insulate the fragile honeycomb radiator from the road vibrations, practically every manufacturer has provided such a rugged type of built-up radiator that this protection is practically needless. The prevailing design is to make cast iron headers, top and bottom, and separate them with channel iron or castings, the radiator core being made up in tubular form and clamped in between the headers, and kept tight with copper asbestos gaskets. This provides a very satisfactory and reliable type of radiator that can not only be easily repaired, but readily permits cleaning when used constantly in alkali water country. Most of the radiators are built up from some one of the patented radiator cores of the tubular type. The Clydesdale, however, uses a plain, unfinned, quarter-inch diameter copper tube in its radiator.

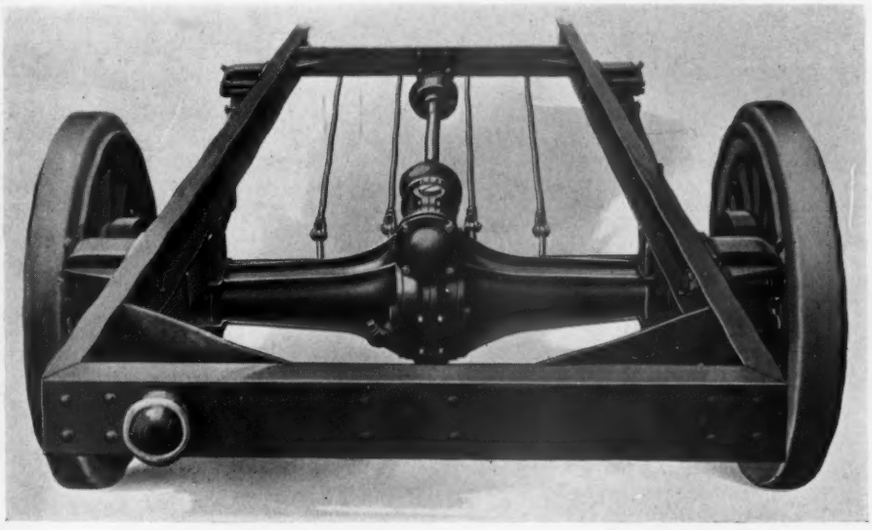
Radiator guards and bumpers are provided on practically every truck. The radiator guard is in the form of vertical or horizontal bars attached to the upper and lower headers, or the right and left vertical supports of the radiator. They have a greater advertising effect than a protective one.

Large filler caps are the rule, and several are provided with the ball type of fastener. This has the advantage of eliminating any screws or nuts in order to fasten down the cap. On the Fulton truck there is a toggle effect on a spring inside the cover, so that the cover is held tightly in place when closed, and cannot be lost when it is moved out of the way in order to fill the radiator.

Not a truck in the show, so far as the writer could observe, had a thermostatic temperature control of the engine cooling water. It is hard to explain this, as it is unquestionably desirable to keep an engine in a commercial car as warm as possible for the sake of fuel economy, if for no other. The only attempt along this line was on the Paige, where buttons were provided on the radiator frame, so that a cover could be buttoned up over the bottom half of the radiator in cold weather.

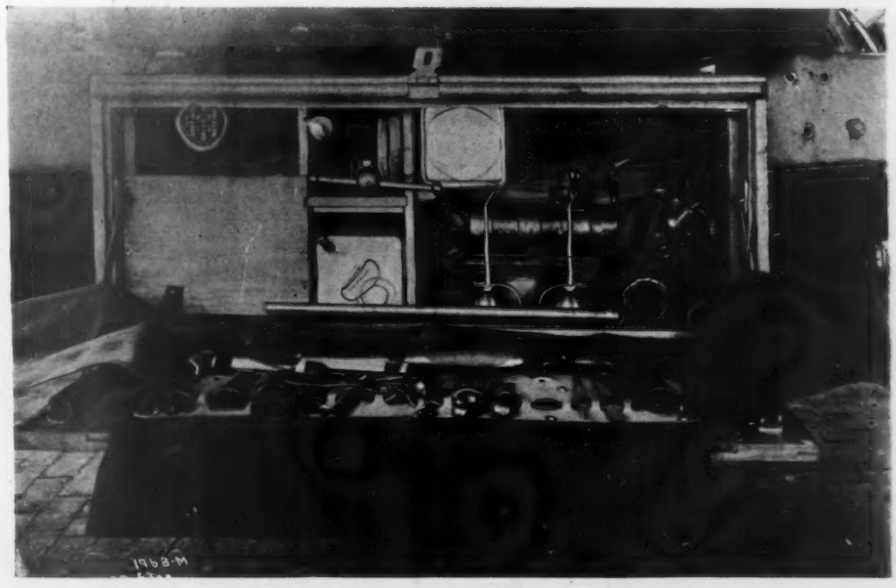


The One-Ton Nash With Express Body



Heavy Rear-End Construction Noted on the One-Ton Chevrolet

Detachable cylinder heads, both on engines with cylinders in pairs and in block, seemed to be the trend. This permits better cooling, for the valve caps are eliminated and the entire combustion chamber is water-cooled. This is particularly desirable in connection with the cooling and location of spark plugs. In engines of this design the plugs are located midway between the intake valve and the center of the combustion chamber on an L-head motor, instead of in the valve cap. Water can be circulated entirely around them, and as a result they are more positive in action and have a longer life than when in the old location.



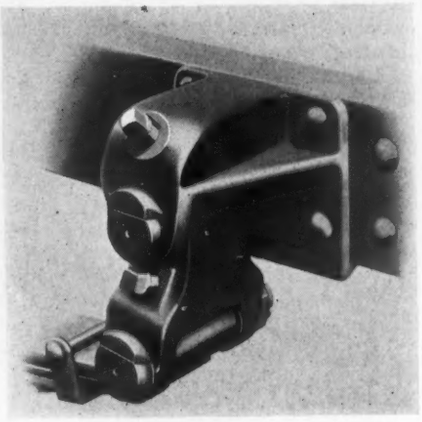
A Very Complete Tool Box is Furnished With Pierce-Arrow Trucks

Single Ignition

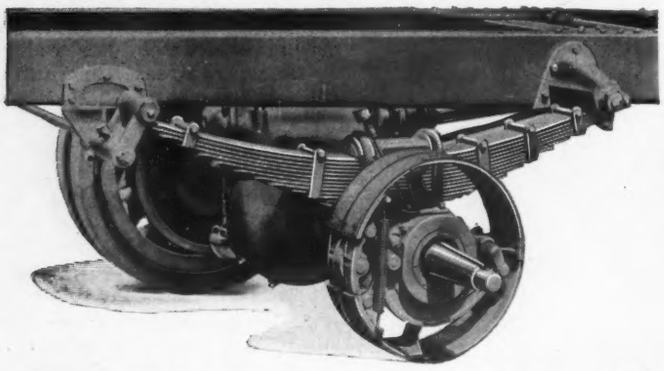
This year has seen the universal application of the impulse starter to the magneto for truck and tractor work in the army. It has been brought back into the commercial side of the industry because it is one of the very desirable developments of the war. Both automatic and manually operated impulse starters are used. The latter have to be tripped by hand before attempting to start the engine, while the former is automatically disengaged by centrifugal force as soon as the engine starts, but returns to starting position as soon as the engine is stopped. These give as hot a spark when cranking at 60 r.p.m. as would be obtained when the engine is running at from 150 to 200 r.p.m. Hence they provide easy means of starting an engine without a battery equipment.

Starting and Lighting

Whether it is due to the exceptionally severe service demanded from a starting system on a truck, or to cost, is hard to say, but it is evident that very few trucks are regularly or optionally equipped with starters. This is not true of electric lighting devices. Several trucks have electric lights but no starters.



The Chevrolet Spring Shackle is Provided With a Large Capacity Lubricating Reservoir



The Hotchkiss Form of Drive is Prevalent in the Lighter Models

Most of the standard engines that are used in the assembled trucks are now being provided with standard S. A. E. generator and starting motor flanges, so that there is no difficulty in applying a starting and lighting system as an option.

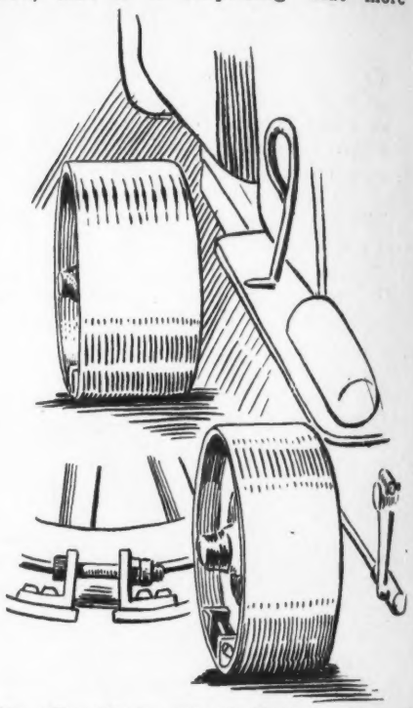
Unit Power Plants

The unit power plant, that is, the combination of engine and transmission in one unit, is still very popular, especially in the smaller truck sizes. This is more of a manufacturing convenience than an advantage, and for that reason there is a steady increase in the number of amidships transmissions that are to be observed at this show. The latter location is the standard for the 5-ton trucks, it seems. Also four speeds are provided in practically every one of the 5-ton gear boxes. On most of these there is also a large cover plate on top or a detachable one on the side, so that a hoist drive or a winch connection may be provided for the requirements of certain users. Except in one or two instances the transmissions are of the conventional three-speed type, and all of them are selective in operation. When an amidships transmission is used it is customary to provide a housing for the clutch and provide an anchorage to which the pedals, control levers and clutch shaft rear bearing may be attached.

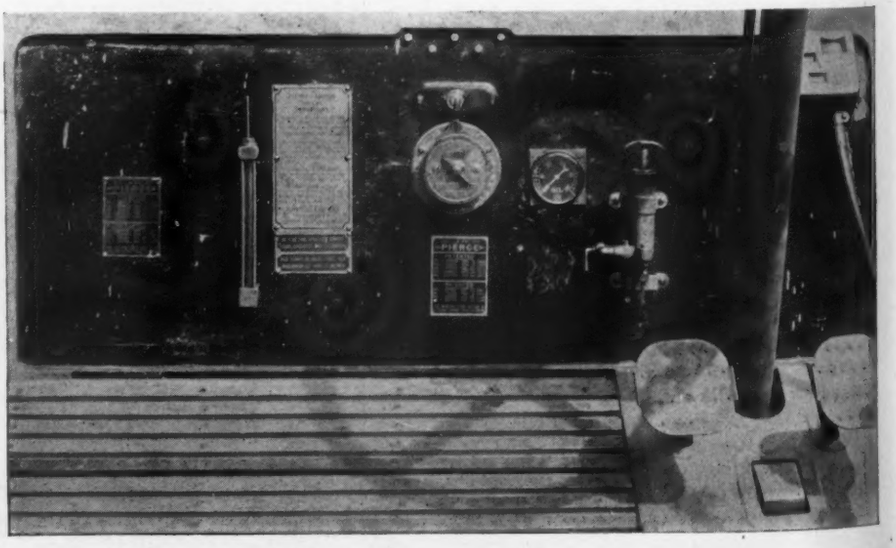
The dry disc clutch seems to be universal. The exceptional cone clutch only proves the rule. The plate clutches are of two types, the Borg & Beck single disc type, and the multiple plate variety, such as is used on Packard trucks.

Universal Joints

Where an amidships transmission is used it is necessary to provide some universal joints between the clutch tail shaft and the transmission. These joints only have to compensate for misalignment due either to frame distortion in negotiating rough roads or to mal-assembling. They do not have a severe angular movement, as do the rear ones. In this location the Hardy-Thermoid fabric joint seems to have displaced the metal joint to a great extent. It is so desirable because it never needs lubrication, that it is surprising that more trucks are not using them. No great headway has been gained in the use of these joints behind the transmission. It is probable that the torque is too great, especially on low speed or reverse. Hence, metallic universal joints are used exclusively between the transmission and the rear axle. Two universal joints



Steel Road Roller Wheels That Are Clamped Over the Solid Tires
Seen on the Garford three and a half ton truck



Neat Arrangement of Instruments on Pierce-Arrow Truck

are used on all installations having an amidships transmission, and three on many of the unit power plant designs. The latter are used because it is necessary to employ an intermediate supporting bearing on the drive shaft about midway between the rear end of the transmission and the rear axle. This bearing is supported on a cross-member of the frame. A ball bearing is generally used so as to take care of the thrust of the propeller shaft.

Rear Axle Types

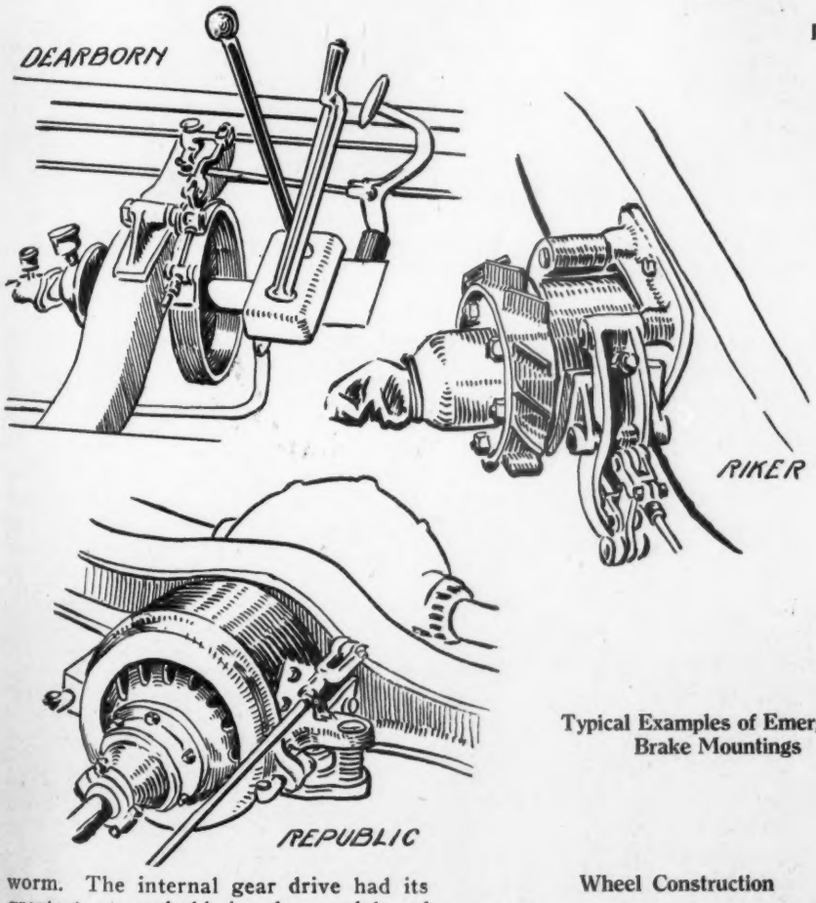
About two-thirds of the trucks at the show had worm drive, and in each case an overhead worm was used. In most of these designs, also, the rear axle is a steel casting and the worm is carried on another casting bolted to the top of the axle. From the standpoint of production probably about half of the trucks put out will have worm drive. Except for Autocar, with its double reduction gearing in the differential housing, and Maxwell, Dodge, Reo and Chevrolet, practically all of the others have the internal gear drive. This proves that the field is very nearly equally divided between the internal gear and the worm. The internal gear drive had its greatest stronghold in the models of 3½ tons and less capacity.

Hotchkiss Drive

Just as the Hotchkiss drive has become very popular for passenger cars, so in the truck field the transmission of the driving torque through the rear springs, as is the case in this form of drive, has become almost the standard. Only the 5-ton models seem to be provided with torque tubes and radius rods. The designers are not all consistent, for there are several models that are only provided with radius rods, and the springs depended upon to take the torque. In the lighter designs there is a gradual leaving off of both the torque tube and the radius rods, thereby giving full Hotchkiss drive.

Semi-elliptic front and rear springs are the standard design on all models. There seems to be about an equal division of opinion as to whether oil or grease should be used on spring bolts. The use of a wick and an oil reservoir for lubricating the spring bolts has not been adopted by any of the cars exhibited at the show, and the new Chevrolet, so far as could be observed, was the only one to even provide a large capacity reservoir for this purpose. This has a reservoir in the spring shackle.

Springs are designed to be fairly flat under unloaded conditions, and practically flat when loaded. This is the desirable condition for Hotchkiss drive installations.



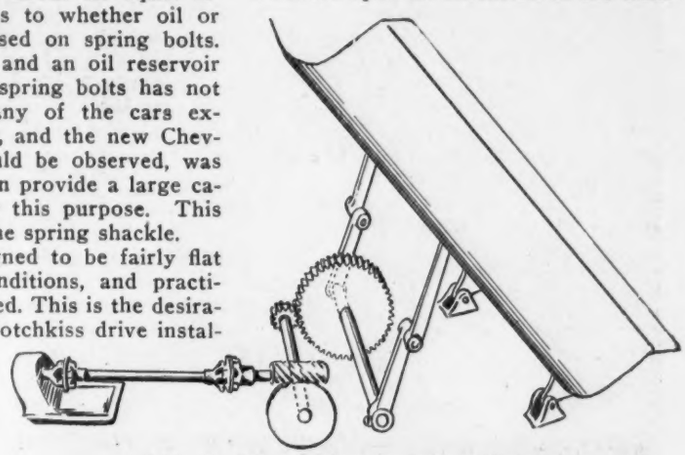
Typical Examples of Emergency Brake Mountings

Wheel Construction

There were surprisingly few wood wheels exhibited at the show, and these were in most cases on the smaller and lighter trucks of the bevel gear-driven type, as exemplified by Maxwell, Chevrolet and Reo. The big 3½ and 5-ton jobs were almost invariably equipped with some form of metal wheel. Some of them were Smith malleable iron, some Clark disc type and cast steel and the rest equally divided between West and Dayton steel wheel companies.

Brakes on Propeller Shaft

Propeller shaft brakes are apparently gaining considerable prestige as indicated at the show. The running brakes in most cases are those located upon the rear axle while the emergency is hand operated and applied to the propeller shaft. The location of this brake is quite interesting. On the Dearborn truck it is mounted upon an extension of the transmission drive shaft and an outboard bearing attached to a cross member is provided between the brake and the universal joint of the propeller shaft. On the Republic trucks this brake is located on the rear axle. On the Stewart and Schacht trucks the brake is applied to the propeller shaft just behind the intermediate bearing on the drive shaft and the forward universal joint is attached to the rear side of the brake drum. On the Riker truck its position is just to the rear of the amidships transmission and it has the distinction of carrying fan blades upon the brake drum to keep it cool. The Pierce-Arrow trucks have the brake in the same position but instead of allowing brake to overhang transmission they provide a tubular cross member and supporting bearing behind brake. On Garford truck brake is located on front end transmission counter shaft.



Layout of the Autocar Dumping Mechanism

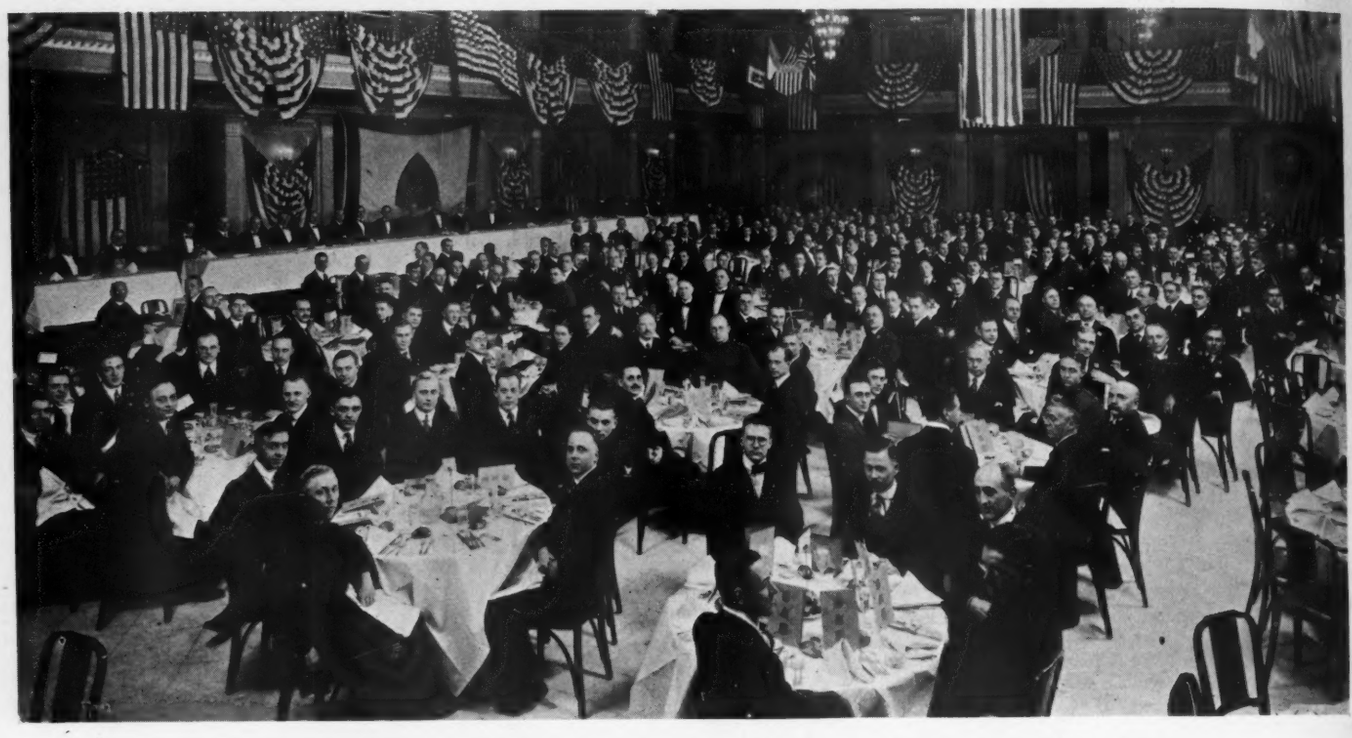
Frame Design

There seems to be a decided increase in the use of pressed steel channel section frames. The 9-in. deep channel is found on a dozen trucks and is not only stronger but much lighter and more easily braced than the rolled structural iron frame which used to be so popular.

Most of the frames, especially of pressed steel design, have the cross member at the front to act as the bumper. Others have the cross member cast from steel and dropped at the center enough to clear the engine if it has to be pulled out at the front. It is conventional practice to attach the spring brackets to the bottom of the frame and tie them together by round cold rolled steel rods that also act as spring bolts. Most of the frames also have cross members or reinforcements of some kind at the points where rear springs attach to frame.

Many of the Gatherings Like These During Chicago Show Week

Helped the Dealers and Manufacturers to Get New Ideas



Home-Coming Supper by the S. A. E., at the Hotel Morrison, to Welcome Back to the Ranks Those Members Released From the Army



The Nash Motors Company Dealers' Dinner Brought Forth a Great Number



New York Show Portrays Optimistic Feeling of the Trade

First New York Dealers' Show Aroused Great Interest. Results Destined to Give Tremendous Impetous to Truck Sales in Eastern Territory

By C. P. SHATTUCK

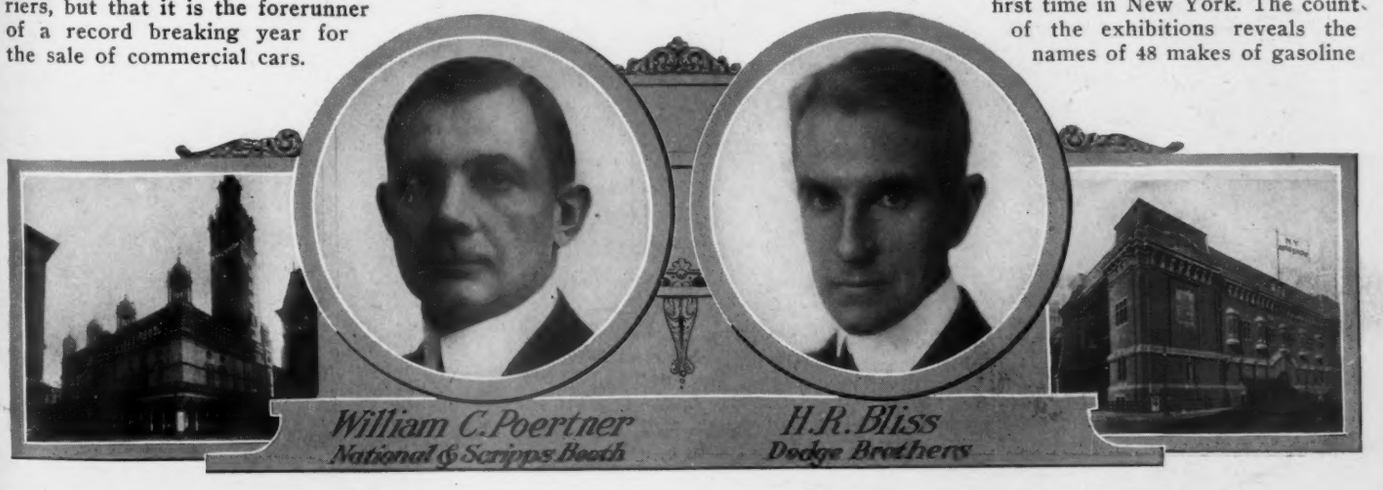
NEW YORK, Feb. 11.—There is a decidedly optimistic spirit prevailing among the commercial car dealers which augurs well for the first exclusive truck show being held in this city since 1913. This optimism is not alone confined to those dealers exhibiting at the Madison Square Garden and the Armory, but is shared by those who have not been fortunate in securing space at the show. The confidence of the dealers as to the success of the show from a selling point of view is significant. It may be interpreted to indicate that not only will the show be instrumental in stimulating an unprecedented demand in fields not heretofore exploited, such as those to be served by the Rural Express and other forms of highway motor transportation formerly confined to the common carriers, but that it is the forerunner of a record breaking year for the sale of commercial cars.

On every hand there is evidence that the dealers are planning to take advantage of the wonderful opportunities afforded by these fields, particularly with reference to the agricultural sections which will absorb thousands of trucks in the near future. This contention is borne out by the large number of trucks and bodies shown and which have been constructed to meet the requirements of the farmer and operator of Rural Express and freight lines.

Showing Many Rural Express Designs

Over 20 per cent. of the dealers are displaying either a specially designed and equipped body for Rural Express work or one that may be readily adapted to meet its requirements. The influence of the National movement to link the producer with the city and consumer is noted in the exhibit of the Colt-Stratton Co. This concern has brought out what is termed a strictly Rural Express model, a body that can be completely enclosed and that is mounted on a 3-ton Day-Elder chassis. This company is also conducting a Rural Express booth from which it is distributing data dealing with the operation of express lines, and a corps of transportation experts is giving advice as to their establishment.

The number of dealers, distributors and factory branches taking space at the show has exceeded the expectations of the most sanguine. Over 70 per cent. of the trucks represented in New York are on display and this figure does not include entries by manufacturers who are at the present time represented here and whose product is being shown for the first time in New York. The count of the exhibitions reveals the names of 48 makes of gasoline



The New York Motor Truck Show, Madison Square Garden

trucks, 1 electric, 4 adapters or converters, 4 trailers and 2 tractors. There is a total of 140 trucks exclusive of adapters, and 74 of these will be equipped with bodies, a number of which have been constructed for the show.

New Makes and Models a Feature

Among the brand new makes or models seen for the first time in New York is the Ward La France, All-American, Tower, Traffic, Oldsmobile, Shaw and West, the last named an electric. The Oldsmobile, Shaw and West are distinctly new additions to the truck field. The Ward La France is a 2-ton chassis having a novel automatic chassis lubricating system and heat control, and the exhibit includes demonstration of these devices, also parts. This company will shortly bring out a new model, a 3½-ton chassis, listing at $3750. Announcement is also made of a reduction in price of the 2-ton chassis from $3500 to $3350.

The Oldsmobile is a distinctly new product, a 1500-lb. capacity chassis listed at $1495 and equipped with pneumatic tires. It is shown with a high class panel body. The E-S-E 2-ton electric truck is another newcomer. It employs the Krohn form of drive, having but two gears, an external gear mounted inside an internal, and motor and gear reduction, differential and drive axles are enclosed in a trussed housing as a unit, affording, it is claimed, a straight line drive. The model is a forerunner of a line to include 3½- and 5-ton models. Production will be by the West Motor Co., Inc., who are also the distributors of the Oneida line.

Adds Semi-Trailer to Line

The Rainier Motor Corp., maker of the Rainier line, showing for the first time two new models, a model R-7, a 1500-lb. capacity chassis with a Continental engine, Brown-Lipe clutch and transmission and worm gear drive. The model R-8 is of 1½-2-ton capacity with a Continental engine, Brown-Lipe clutch and transmission, worm gear drive and has a wheelbase of 147 in. Another entirely new truck is the model 19 2½-ton Republic, exhibited by the W. J. B. Motor Co.

Another new model is the 3½-ton Paige to be shown by the Paige-Detroit Co., of N. Y. The Herrman Motor Truck Co., Inc., is exhibiting for the first time a 3½-ton Stewart, which was fully described in the January issue of the COMMERCIAL CAR JOURNAL. The Cutting-Larson Co. is showing the new Oldsmobile, also the new 1½-ton Master, also the 5-ton model.

Dealers Taking on Trailers

The possibilities of trailers are beginning to be appreciated by local dealers and four different makes are shown. The Troy Trailer Sales Co., Inc., pioneers in the field here, are showing a 5-ton trailer and demonstrating how it is utilized with a motor truck. The Elliott Ranney Co. is showing the Columbia, and the Kauffman-Stowers Co., Inc., Nash dealers, are displaying a complete line of Warner trailers. The La Peer is exhibited by the Trailer Company of America, eastern distributor.

The influence of the pneumatic tire is noticeable and several makes heretofore utilizing solids are seen with the shock absorbing big tires. The Autocar Sales & Service Co., Inc., is displaying four of its 2-ton capacity chassis fitted with pneumatics, the line including a high lift coal body, a convertible contractor's body and express types, one of which meets the requirement of the operator of a Rural Express line. The adoption of pneumatics by this concern indicates the trend towards exploiting fields where increased radius of delivery, safety of merchandise, fuel economy, etc., are factors in operation and maintenance.

Several Pneumatic Tired Trucks

The Garford Motor Truck Co., of N. Y., is displaying a special pneumatic tired service wagon of 1-ton capacity, and among other makes that have pneumatics are the Hurlburt and Nash. This refers to trucks of 2-ton and greater capacity and does not include those makes supplying pneumatics as standard equipment or giving option.

Dump types of bodies designed for handling various materials, are seen on the Bethlehem, Day-Elder, Federal, Garford, Hall, Packard, Riker and Autocar chassis, and one body concern is exhibiting a combination steel dump which is adaptable for other service. The Kelly-Springfield Motor Truck Sales Co. is showing a 5-ton Kelly-Springfield on

Gasoline Trucks

ACME
ACASON
ALL-AMERICAN
ATLAS
AUTOCAR
BETHLEHEM
CLYDESDALE
COLUMBIA
CORBITT
DAY-ELDER
DEARBORN
DENBY
DIAMOND T
FEDERAL
FORD
FULTON
GARFORD
GIANT
HALL
HURLBURT
JUMBO
KELLY-SPRINGFIELD
LARRABEE-DEYO
MACCAR
MASTER
MAXWELL
MENOMINEE
NASH
OLDSMOBILE
ONEIDA
OVERLAND
PACKARD
PAIGE
PARKER
RAINIER
REO
REPUBLIC
RIKER
ROWE
SANFORD
SCHACHT
SCHWARTZ
SERVICE
SHAW
SIGNAL
STERLING
STEWART
TITAN
TRAFFIC
TOWER
UNITED STATES
VELIE
WARD LaFRANCE
WILCOX

Adapters, Extensions, Etc.

GRAHAM
HAY-DEE
TRUXTUN
FORD TON

Trailers

COLUMBIA
LAPEER
TROY
WARNER

Electric Trucks

E-S-E
WARD

Tractors

FORDSON
MAXIM
NATIONAL

Bodies

ECONOMY

Facts About the Show

Gasoline Makes	49
Electric Makes	1
Adapters, Makes	4
Trailers, Makes	4
Tractors, Makes	2
*Trucks	140
Chassis only	66
Chassis with bodies	74
800 Lb.	2
1000 Lb.	1
1200 Lb.	2
1500 Lb.	10
1-Ton	17
1½-Ton	11
2-Ton	34
2½-Ton	9
3-Ton	4
3½-Ton	22
4-Ton	3
5-Ton	15
5½-Ton	1
6-Ton	3

*Exclusive of adapters, etc.



Another View of the Madison Square Garden Motor Truck Exhibits

which is mounted a Seco portable pumping apparatus, designed for cleaning catch basins and sewers. The unit can be readily converted to a street sprinkler or flusher or to a spraying machine in agricultural work, etc., and the body can be utilized for general work without mechanical changes.

Improved Cab Designs

The tendency of affording protection to the driver of the truck will be noted in the improved cab designs, the most striking of which is that shown on the 3E Packard. The cab has bevel corners and the use of plate glass affords the operator a clear vision, obtaining practically the same advantages as accrue with the clear vision, rain vision windshield. Another innovation is the installation of a box with lock for storing the personal effects of the driver. Another truck is noted with a convertible type of driver's cab which permits the operator to fully enclose it from all sides without leaving his seat. The doors are of a fabric material and roll up in the roof when not in service. Windshields are seen on a number of cabs.

Among other attractions is a Willys-Knight taxicab and the Maxwell truck that made the cross country run. At the Maxwell booth is seen a cut-away chassis operated by an electric motor, display boards of parts and photos showing the Maxwell truck in varied service. The Packard is exhibiting a 5 E chassis in pure white, and a Maccar demountable power plant is included among the exhibits of the Pitts Motor Car Repair & Sales Corp., which concern is showing a 3½-ton chassis fitted with a body designed to transport sand and steel.

Truck Makers to Convene

Although a dealers' show, it is the most comprehensive display of commercial vehicles and accessories ever held in any one city, exceeding in makes and number of exhibits, at the present time of writing, the Chicago show. A distinctly national tone is given the New York show by the presence of truck manufacturers and sales managers who are gathering here to attend the Motor Truck Manufacturers' Convention, to be held at the headquarters of the National Automobile Chamber of Commerce tonight. The programme includes the presentation of a number of interesting and instructive papers and discussions of pertinent subjects by authorities in the commercial car industry and transportation fields.

Special days have been set aside, these including Rural Express, Motor Truck Association, etc., and on Thursday the Motor Truck Association of America and Motor Truck Club of New Jersey, are expected to attend in a body. The former organization has changed the date of its monthly meeting to Thursday, February 13, and after a 6 o'clock dinner will conclude its business and adjourn in a body to the show.

Out of Town Dealers Expected

Dealers, distributors and factory branches have extended invitations to their out of town representatives, and judging from the conditions at the hotels the show will be a record breaker. Broadway, which now boasts of a number of commercial show rooms, is having separate shows, and among those having displays are the representatives of the Dodge, Day-Elder, Selden, Paige, Giant, Atlas, Velie, Diamond T, Fulton, Reo, Republic and Oldsmobile. The dealers are brimming over with optimism and are confident that this result will give a tremendous impetus to the exploitation of trucks.

A Review of the New York Motor Truck Exhibition in Brief

Acason—Acason Motor Truck Co.
Acason 2-ton chassis.

Acme—Commercial Repair Co., Inc.
1-ton chassis; 2-ton chassis, rack body; 3½-ton chassis; 5-ton chassis.

All-American—Otto & Robinson Co.
1-ton and 1-ton chassis, panel body.

Atlas—Garland Automobile Co.
1500 lb. chassis, express body.

Autocar—Autocar Sales & Service Co., Inc.
2-ton chassis, Rodenhausen lift coal body; 2-ton chassis, convertible contractor's body; 2-ton chassis, panel express body; 2-ton chassis, express body.

Bethlehem—Graham Bros. Sales Co.
1½-ton chassis, cab and express body; 2½-ton chassis, cab and stake body; 2½-ton chassis, dump body, wood hydraulic hoist; 3½-ton chassis.

Clydesdale—Arlington Motors Corp.
2-ton, 3½-ton and 5-ton chassis.

Columbia—A. Elliott Ranney Co.
1-ton chassis; 2-ton chassis, stake body.

Corbitt—Corbitt Motor Truck Co.
2½-ton chassis, cab.

Day-Elder—Colt-Stratton Co.
3-ton chassis, screen express body; 6-ton chassis, dump body, wood hydraulic hoist; 6-ton chassis, 170-in. wheelbase.

Dearborn—Dearborn Truck Sales Co.
One Dearborn chassis.

Denby—Denby Eastern Distributors, Inc.
1-ton chassis; 2-ton chassis, cab, special rack body; 3½-ton chassis.

Diamond T—Diamond T Motor Truck Co. of N. Y., Inc.
2, 3½ and 5-ton chassis.

Federal—Morton W. Smith Co., Inc.
2-ton chassis; 3½-ton chassis, stake body; 5-ton chassis, dump body, wood hydraulic hoist.

Ford—Albert Hirst, Inc.
T chassis, station body; T chassis, panel body.

Ford—Stearn-Picard Co.
Three Ford commercial cars.

Fulton—New York Fulton Truck Co.
1½-ton chassis; 1½-ton chassis, cab, stake body.

Garford—Garford Motor Truck Co.
1-ton chassis, service body; 2-ton chassis; 3½-ton chassis, dump body, wood hydraulic hoist; 5-ton chassis, rack body.

Giant—L. W. Mulford Co.
1-ton chassis; 1½-ton chassis, stake body; 2-ton chassis, enclosed panel body; 3½-ton chassis.

Hall—Robert D. King & Co.
2-ton chassis, van furniture body; 3½-ton chassis, combination dump.

Hurlburt—Hurlburt Motor Truck Co.
2-ton chassis; 3½-ton chassis; 5-ton chassis, cab and rack body.

Jumbo—John Simmons Co.
2½-ton chassis.

Kelly-Springfield—Kelly-Springfield Motor Truck Sales Co.
2½-ton chassis; 3½-ton chassis; 5-ton chassis, Seco portable pumping apparatus.

Larrabee-Deyo—Larrabee-Deyo Motor Truck Sales Co.
One chassis.

Maccar—Pitts Motor Car Repair and Sales Corp.
1½-ton chassis; 3½-ton chassis, iron and steel body; 5½-ton chassis; demountable power plant.

Master—Cutting, Larson Co.
1½-ton chassis; 2-ton chassis, cab, rack body; 3½-ton chassis, cab, special body; 5-ton chassis.

Maxwell—Maxwell Motor Sales Co.
1-ton chassis, panel delivery body; 1-ton chassis, stake body; 1-ton chassis, coast to coast special; 1-ton chassis, cut away, motor driven; 2 parts board; display photo boards.

Menominee—Menominee Motor Truck Co.
2-ton chassis; 3½-ton chassis, cab, sloping floor rack body.

Nash—Kaufmann-Stowers Co., Inc.
2-ton chassis, cab and rack body; 2-ton chassis, van body; 2-ton chassis, special express body; 1-ton chassis, express body, canopy top; 2-ton chassis; 1-ton chassis, stake body; quad; and 2-ton Nash traveling truck.

Oldsmobile—Cutting, Larson Co.
1500-lb. chassis, panel body.

Oneida—West Motor Company, Inc.
1-ton chassis, cab, express type furniture body; 5-ton chassis, open cab.

Overland—Willys-Overland, Inc.
800-lb. chassis, model 90, express body; 800-lb. chassis, model 90, panel body; 1200-lb. chassis, panel delivery body; 1200-lb. chassis, express body.

Packard—Packard Motor Car Co., of N. Y.
6 E chassis, contractor's body, Young hydraulic hoist; 5 E chassis, finished in white; 2 E chassis; 3 E chassis, army type, special clear vision cab.

Parker—Parker Motor Truck Co.
One chassis.

Paige—Paige-Detroit Co. of N. Y.
2-ton chassis, stake body; 2-ton chassis; 3½-ton chassis.

Rainier—Rainier Motor Corporation.
1500-lb. chassis, model R-7; 1½-2-ton chassis, model R-8; 1000-lb. chassis, model R-5, panel body; 1-ton chassis, model R-4, cab, express body; 1½-ton chassis, model R-6, covered express body; 1500 lb. chassis, model R-2, panel body.

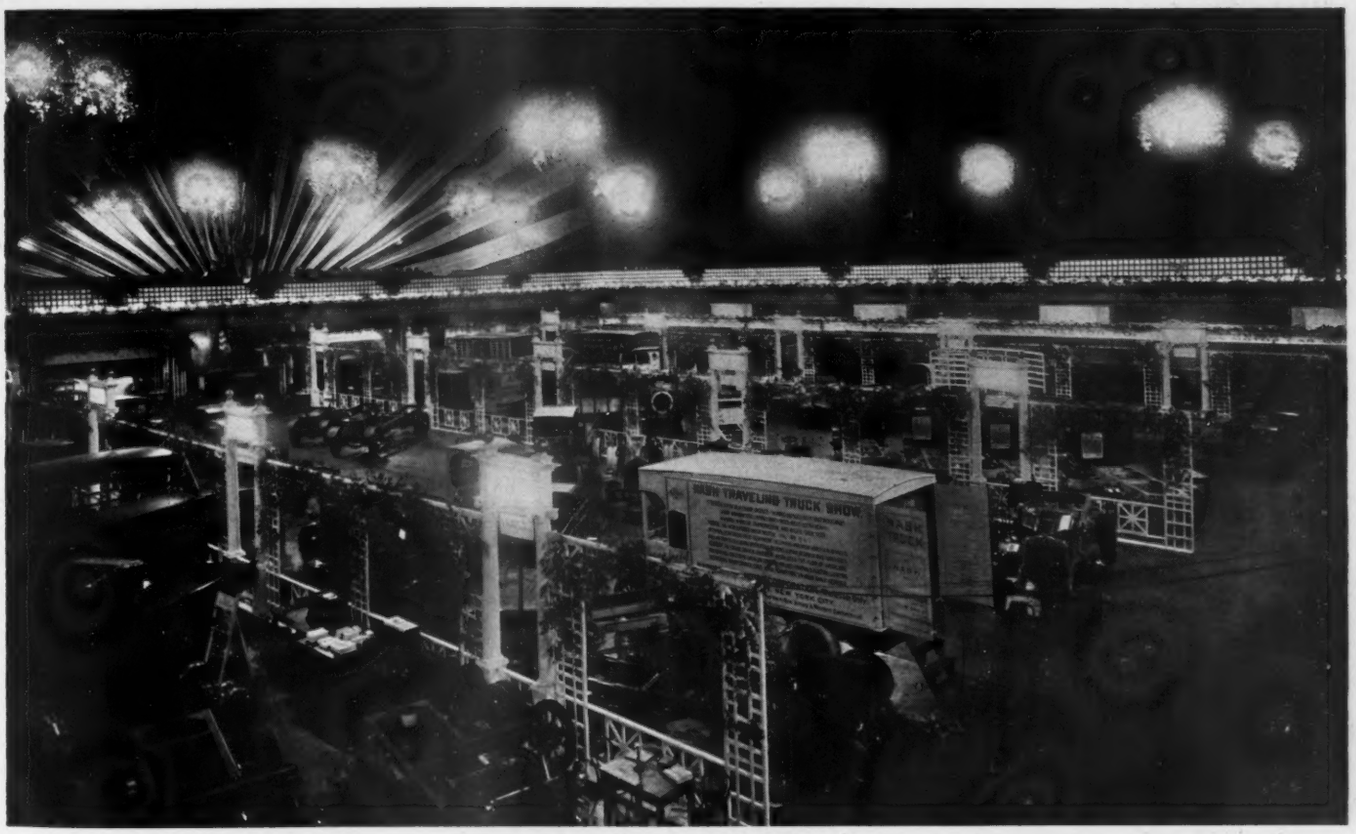
Reo—Reo Motor Car Co. of N. Y., Inc.
1500-lb. chassis, jitney bus body; 1500-lb. chassis, hearse; 1500-lb. chassis, standard Grade A ambulance; 1500-lb. chassis, fire apparatus; 1500-lb. chassis, panel delivery body; 1-ton chassis, special combination body.

Republic—W. J. B. Motor Co.
1-ton chassis, model 10, panel body; 1½-ton chassis, model 11, canopy top market body; 2½-ton chassis, model 19; 3½-ton chassis, model 20.

Riker—The Locomobile Company of America.
3-ton chassis; 4-ton chassis, cab and dump body; 4-ton chassis, dump rack body.

Rowe—Rowe Motor Truck Co.
8-cyl. Rowe truck.

Sanford—Lawrence Motor Sales Corp.
3½-ton chassis.



The Sixty-Ninth Regiment Armory, New York, Where the Overflow Exhibits Were Staged

Schacht—G. A. Schacht Motor Truck Co.
2-ton chassis, rack body; 5-ton chassis, rack body.
Schwartz—Schwartz Motor Truck Co.
One Schwartz chassis.
Service—Service Motor Truck Co.
2 and 3½-ton chassis.
Shaw—W. W. Shaw Corp.
2-ton chassis.
Sterling—Sterling Motor Truck Co. of N. Y., Inc.
2½, 3½, 5 and 7-ton chassis.
Signal—R. E. Taylor Corp.
2-ton chassis, model JL; 3½-ton chassis, model M; 5-ton chassis, model R.
Stewart—Herrman Motor Truck Co., Inc.
1-ton chassis, model 8, panel body; 1500-lb. chassis, model 6, panel body; 1½-ton chassis, model 9, half van body; 2-ton chassis, model 7, full panel body; 3½-ton chassis, model 10.
Sullivan—Sullivan Motor Truck Corp.
2-ton chassis, Model E, slatted stake body.
Titan—Kaufmann-Stowers Co., Inc.
3-ton chassis.
Traffic—Traffic Truck Sales Co.
2-ton chassis; 2-ton chassis, cab, open express body; 2-ton chassis, cab, stake body.
Tower—McFarlan Six Sales Co.
1½-ton chassis.
United States—Cole & Dixon.
2½-ton chassis, model H, steel driver's cab; 5-ton chassis, model K, steel driver's cab.
Velie—Garland Automobile Company.
2 and 4-ton chassis.
Ward LaFrance—Ward LaFrance Truck Co., Inc.
2-ton chassis; parts, oiling system, heat control, etc.
Wilcox—Taylor Motors Corporation.
1½, 2½, 3½ and 5-ton chassis, all fitted with Wilcox cab.

Electric

E-S-E—West Motor Company, Inc.
2-ton chassis, Krohn unit drive.
Ward—Ward Motor Vehicle Co.
750-lb. and 2-ton Ward electric.

Extensions, Attachments, Etc.

Commercial Car Unit Co.
Dodge unit model G and 3-ton attachment model E.
Graham Bros. Sales Co.
1½-ton Ford truck builder, cab and stake body; 1½-ton Dodge truck builder, cab and stake body; Graham universal truck builder, cab and stake body.
Hayes-Diefenderfer Co.
Hay-Dee extension, chassis; emergency ambulance (body); special hearse (body); suburban (body); panel delivery, Olds chassis; hearse (body); undertaker's wagon (body).
Albert Hirst, Inc.
1-ton extension for Ford.

Trailers

Troy—The Troy Trailer Sales Co., Inc.
Columbia—Elliott Ranney Co.
Warner—Kaufmann-Stowers Co., Inc.
Lapeer—Trailer Company of America.

Tractors

Fordson—Albert Hirst, Inc.
Maxim—Maxim Munitions Corp.
E. B.—Emerson-Brantingham Co.

Truck Accessories

American Pump Tank Co., New York City. Gasoline and oil pumps. Globe air compressors.
American Taximeter Co., New York City. Taximeters, "Recordograf" tape recorder.
American Traction Ring Co., White Plains, N. Y.
Conservo Sales Co., Inc., New York City. Conservor vaporizer.
Derf Mfg. Co., New York City. Derf spark plugs.
Dixon Crucible Co., Jos., Jersey City, N. J. Graphite lubricants.
Dorr Miller Differential Co., New York City. Dorr Miller differential.
Double Seal Ring Co., New York City. Double seal piston rings.
Eastern Rubber Co., Philadelphia, Pa. Magic rubber mend.
Electric Storage Battery Co., New York City. Exide batteries.
Essenkay Products Co., Chicago, Ill. Essenkay tire filler.
W. Hampton de Fontaine, New York City. Carburetors.
Gates Rubber Co., Denver, Col. Half sole tires, tubes, blow-out patches, etc.
Gray & Davis, Inc., Boston, Mass. Starting and lighting systems; lamps.
Houpert Machine Co., Long Island City, N. Y. Cylinder grinding; pistons and piston rings.
Kenilworth Mfg. Co., New York City. Uniforms and overalls.
Lane Bros. Co., Poughkeepsie, N. Y. Lane-H-C jack.
National Chain Co., New York City. "Flash-on" anti-skid chains.
Plunkett Shock Absorber Co., Brooklyn, N. Y. Shock absorbers.
Simms Magneto Co., East Orange, N. J. Simms magnetos.
Taft, Peirce Mfg. Co., Woonsocket, R. I. Martell aligning reamers, Simmons magnetic chuck, T-P gauges.
M. Geo. Tigar Bearings Co., Inc., New York City. Bearings.
Union Truck Co., New York City.
Victor-Ford Transmission Mfrs., New York City. Victor-Ford transmission for Ford cars.
Ralph Waldt, New York City. Weaver garage equipment.
West Steel Casting Co., Cleveland, O. Cast steel wheels.

Columbia Adds Standard One-Ton Truck and Truck-Tractor

Since the recent addition of a one-ton truck the Columbia Motor Truck and Trailer Co., Pontiac, Mich., is now producing four different size trucks of one, two, three and six-ton capacity respectively. The latest addition is Model F, the chassis of which weighs about 2800 lb.

The wheelbase of the new model will be in two lengths, 126 in. and 96 in., the former having a 9-ft. frame back of the driver's seat, giving a 10-ft. body with 1-ft. overhang. The loading space is distributed so that over 80 per cent. is carried by the rear wheels. This gives good traction and allows the use of more flexible springs in front, so that the engine is better protected from road shocks taken through the solid tires. The 96-in. wheelbase will be a tractor truck, for use in combination with the three-ton semi-trailer, which is listed at $700.

This means that practically two new models have been added, the 126-in. wheelbase job being a one-ton truck, and the 96-in. wheelbase being a truck tractor of three-ton capacity.

The frame on the Model "F" is special open hearth channel steel with five cross members, gusseted and hot riveted. The channel is 5-in. stock, and is heavy and sturdy looking, at the same time retaining sufficient flexibility. At the front the radiator is protected by the big heavy bumper, used on the older models. The frame is assembled and riveted with air hammers in the company's own factory.

Has Continental Engine

Power for the propulsion of the new truck is supplied by a Continental Red Seal 5 x 3¾ engine, suspended on three points, with a special cross-member in front, which can be removed easily for service work. From the engine the power is transmitted through a Covert heavy-duty unit power plant transmission and a Borg & Beck dry plate disc clutch. Ignition is provided by Dixie high tension magneto. Fuel is fed through a Shakespeare carburetor. The speed of the engine is controlled by a built-in Pierce governor, set at 18 m.p.h.

The radiator, which is of cast tank construction, is mounted on eight coil springs, which provide ample protection against damage through vibration. The core is easily removed and is a type made by the Long Mfg. Co. From the transmission the drive is taken through a Spicer special designed tubular shaft. This shaft is of extra over-size construction, with special joints at each end, which eliminate all whip from the drive shaft.

The gasoline tank is under the driver's seat, the fuel being carried through the gasoline line by gravity. The line has a gasoline strainer and a shutoff valve.

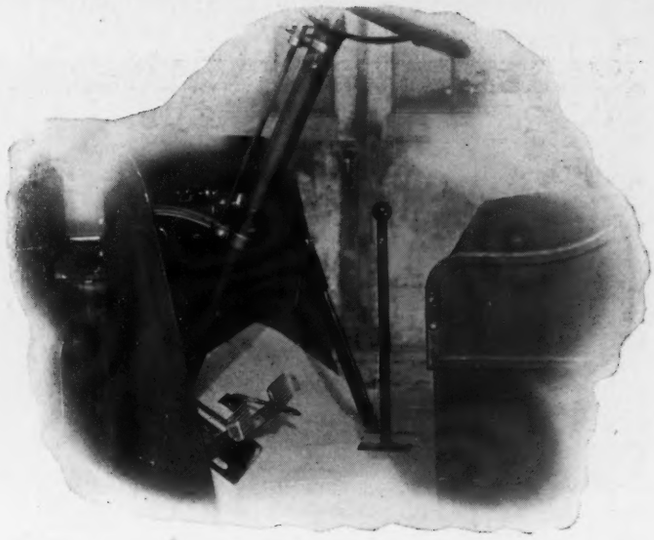
The seat and dash are one piece solid steel construction, providing lightness and strength. On the right-hand side of the driver's seat a large tool box space is provided. The steering column is on the left, with the brake and gear shift levers in the center at the right of the driver. On the dash are the carburetor adjustment lever, an ignition switch and Klaxon horn, which projects through the dash under the hood of the engine, a very desirable mounting for the horn, which makes it easily accessible to the



The New One-Ton Columbia Model



Rear View of Model E Axle, Brake Rod and the Cross Tube, at the Outer End of Which the Rear Spring is Suspended



Relative Position of Steering Column, Klaxon Horn, Pedals, Accelerator, Clutch and Gear Shift Levers on New One-Ton Columbia

driver and at the same time most of the bulk is taken out of the way.

The steering gear is the worm and worm-wheel type, with ball thrust bearings. The wheel is 18 in. in diameter, with the spark and throttle control levers on the column directly under the wheel, and controlled by spring actuated steel balls, operating against notched quadrant.

No radius rods are used in the construction of the Columbia trucks, so that the drive is taken through the springs. At the rear the spring is very heavy and substantial. To provide adequate strength for taking the drive, the rear spring driving bracket hanger is also extra heavy. The rear end of the semi-elliptic springs are hung from a cross-tube which projects through the frame and through a casting mounted on each side of the frame of the truck. The front axle is made by the Shuler Axle Co., and is a drop-forged I-beam section, heat treated and equipped with Timken roller bearings. The steering cross rods are back of the I-beam. The rear axle is made by the Russel Motor Axle Co., and is the internal gear type of a ton and a half capacity. The brakes are both on the rear wheel hubs, and the brake control rods are inside the frame. Equalizers are used. Wheels are wood, with solid tires. They are 32 in. in diameter, and are made by the Hayes Motor Truck Wheel Co. The front wheel has twelve 1¾-in. square spokes, and the rear twelve 2¼-in. square spokes. The tires on the front are 32 x 3 in., and the rear 32 x 4 in. Pneumatic tires can be obtained as extra equipment.

The springs are products of the Perfection Spring Division of the Standard Parts Co. They are high carbon steel, heat treated, with bronze bushings, and each leaf is replaceable, also, they are guaranteed for two years. The front springs are 2½ in. wide and 40 in. long. The rear springs are the same width and 48 in. long.

Standard equipment includes an open seat, cushion, lazy back, three Dietz oil lamps, a set of tools, foot accelerator and a jack. The cushion and lazy back are made of leather, and the cushion is said to be of a very fine spring construction, which affords ample comfort to the driver who operates the truck. A compact Vacuum muffler is used.

Some of the features to which the manufacturer calls attention are the sturdy oversized construction for a one-ton truck, the loading space back of the seat permitting a 10-ft. body; the ease in handling the truck; the standard construction of the unit; the provision of front fenders and running board and motor side pans, and the hood locks on each side of the hood, which eliminate rattling and vibration.

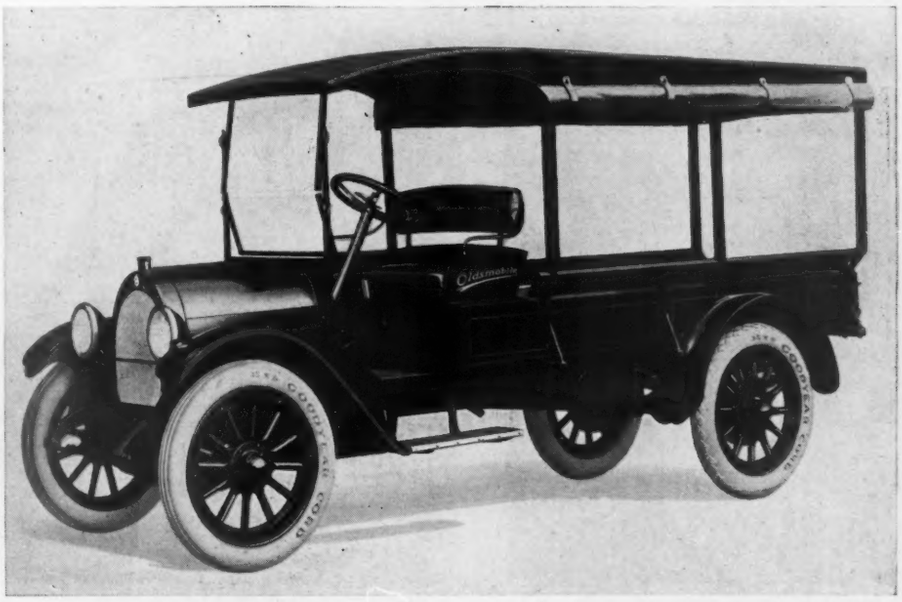
The price of the new truck is $1750, and it is said to be practically a little brother of the Model E two-ton truck, so that a large majority of the trucks are interchangeable.

The Oldsmobile Economy Truck Chassis Shown at New York

One of the new chassis disclosed at the New York show was that of the Oldsmobile Economy Truck, introduced by the Olds Motor Works, of Lansing, Mich., the well-known manufacturer of passenger cars. This new addition to the commercial car field has unit power plant with an overhead valve engine and sells at $1250 for the chassis, $1295 for the chassis with cab and sills, and $1350 for the chassis with express body.

The wheelbase is 128 in., allowing plenty of loading space. The frame is of heavy stock and will carry much in excess of the rated capacity.

The power plant has a four-cylinder engine, cylinders being cast en bloc, with overhead valves, the transmission and clutch forming a unit with it. The clutch is a leather faced cone with ad-



The New Oldsmobile Delivery Job, Built by the Olds Motor Works



Three-Ton Day-Elder Rural Express Body Job



Packard Contractor's Dump Body Shown at New York

justable spring plungers, which provide easy engagement. The transmission is of selective type with three speeds forward and one reverse. The gear shift is located in the center of the chassis. Axles, both front and rear, are Torbensen make and are equipped with Timken bearings. The rear axle is internal gear. The wheels are auxiliary type with 12 spokes and equipped with Goodyear cord tires, 35 x 5, both front and rear. Demountable rims are standard equipment, one extra rim being supplied.

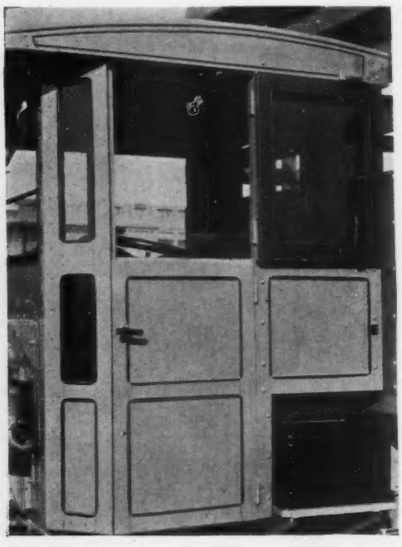
The water of the cooling system is circulated by pump, and the radiator is honeycomb type. Lubrication is both force feed and splash in the engine. The carburetor is a Zenith, fed with gasoline by a vacuum system. The electrical system is the Auto-Lite with a generator, distributor and self-starter and electric lights front and rear. The steering gear is the screw and half-nut type, semi-reversible with an 18-in. wheel. The car will turn in a circle 44 feet in diameter.

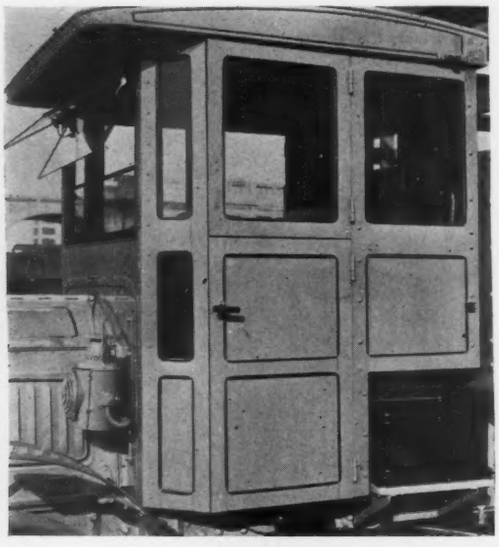
The brakes operating on rear wheel drums are external and internal, 14 x 2 in. The springs are semi-elliptic all around, the front being 37 x 2 in. and the rear 50 x 2¼ in.

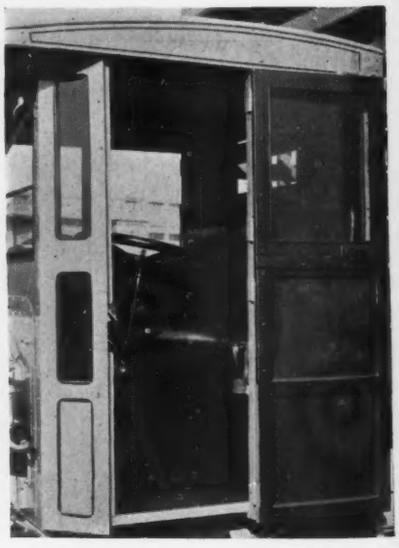
A governor is furnished on this truck, adjustable to various speeds desired. A heavy plate glass windshield, with both sections adjustable, is also standard equipment. The gasoline tank, of 12½ gal. capacity, is located under the driver's seat. The road clearance is 10½ in. at the front and 12 in. at the rear. The weight of the truck with express body is 3100 lb.



Packard Convertible Body; Platform Stake and Slat, Etc.







Three Views of the New Packard Cab Shown at New York Show

The Packard cab is fitted with bevel plate-glass windows throughout. Note the center glass on level with the driver's seat, which permits driver to see the ground in front of the wheels, etc. The third view shows the well upholstered seats

Truck Sales Managers' Meeting at Cincinnati



CINCINNATI, OHIO, Jan. 25.—Swinging into a stride that promises to make it one of the big factors in the future expansion of America's motor truck industry, the National Association of Motor Truck Sales Managers held its third and most successful session at Cincinnati January 24 and 25. The importance of the subjects considered, the deep interest displayed by those present and the plans made for energetic participation of the association in matters of grave importance to the industry, mark the Cincinnati meeting as a mile-post in the progress of the association.

The sessions were held at the Hotel Gibson, and the usual plan of addresses and discussions on both days, with a banquet in the evening of the first day, was followed.

Dealer Should be Posted on Advertising Policy of the Manufacturer

The morning session of the first day was given over principally to addresses by A. R. Fernald, sales manager of the commercial car department of the Willys-Overland Co., and L. C. Rockhill, of the Goodyear Tire & Rubber Co. Mr. Fernald spoke at length on "Direct and Indirect Advertising as a Help to Dealers." He emphasized particularly the idea that all dealers of each truck manufacturing concern should be kept thoroughly posted on the advertising policy and campaign of that company, so that their local advertising would fit into the national campaign and thus get the greatest results for all concerned. Dealers expending their advertising efforts in ignorance of what their factory was doing in a national way to help them and back up their local efforts, could not be expected to get as good results, thought Mr. Fernald, as those who could link up their local advertising with the plans of the manufacturer through a complete knowledge of his scheme of publicity.

In the discussion following Mr. Fernald's address H. T. Boulden, of the Selden; H. F. Harris, of the Republic, and E. T. Herbig, of the Service, spoke heartily in favor of the widest co-operation of the factory with the dealer in bringing about harmonious advertising relations, so that the local advertising campaign carried on by the dealer might be of greatest service to him in disposing of his particular make of trucks.

Mr. Rockhill, of the Goodyear Co., spoke of "Pneumatic Tires for Motor Trucks," and some of the statements he made relative to the rapid increase in the use of the big pneumatics on trucks throughout the country were a surprise even to the sales managers, who have kept in close touch with this subject. The speed which is possible with the big pneumatics, the saving in wear and tear on the truck, and the widening of the range of utility of the truck equipped with these tires, was shown conclusively

by Mr. Rockhill, who spoke particularly of the success with which pneumatic tired trucks are being used by farmers throughout the United States, especially on farms which contain soft earth and sandy soil. Both Mr. Rockhill's address and the discussion that followed emphasized the importance of the farmer as a factor in the future market for motor trucks.

The Possible Market for Motor Trucks

The most important address of the afternoon session was made by C. A. Musselman, treasurer of the Chilton Company. Mr. Musselman, through his long association with the Highways Transport Committee of the Council of National Defense, and as chairman of Region No. 3 under that committee, has been in closest contact with the development of highway transportation by motor truck, and his address gave the members a new idea of the possibilities for truck sales developed through the expansion of that method of haulage. In part Mr. Musselman said:

"There are 15,000 miles of inland waterways, 350,000 miles of railways and 2,199,000 miles of highways in the United States. The railways and waterways are the ribbons across the country. The highways are the net which covers the country.

"The first potential transportation methods in our commercial life were the waterways. Then came the railways, which opened the country from coast to coast. Now we are entering upon a new era of transportation—the highway.

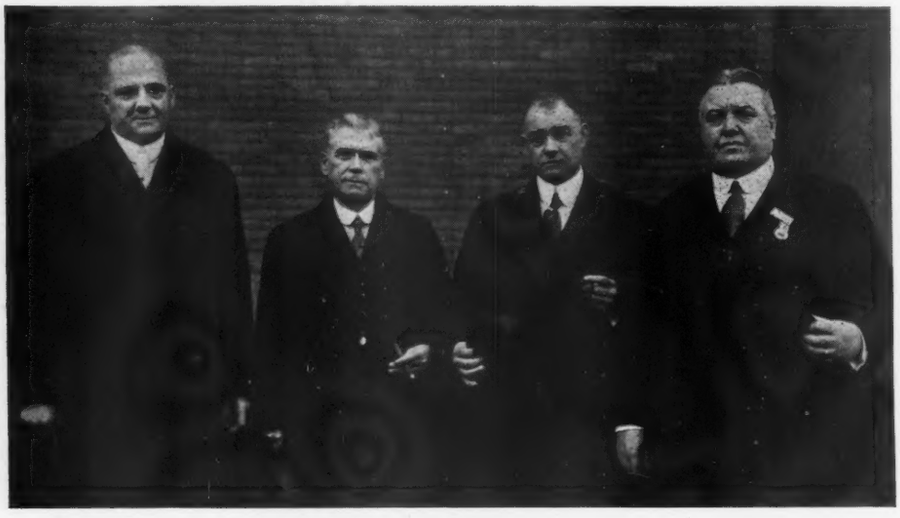
"Possibly the most important development will be that of rural highways, which, when they are constructed properly, will connect farms with consuming centers. When this is accomplished, agriculture, which is our largest industry and employs 25 per cent. of our population, will be served by transportation agencies, thus releasing the farmer for six days work on the farm. It may be interesting to know that there are 2,700,000 farms of over 100 acres each and the owners are at present compelled to be their own transportation agents."

Committee Organized to Educate Country to Better Type of Roads

As a result of Mr. Musselman's address and the discussion following it, a committee was appointed to carry on a nation-wide campaign among motor truck dealers and dealers' associations, to enlist their efforts in educating the country to build roads capable of sustaining modern motor truck transportation, rather than having limitations placed upon this type of transportation because the old type of roads would not carry it. The importance of modern roads and consequent motor truck transportation to the farmer will be particularly emphasized in this campaign.

The committee appointed consisted of F. L. Pierce, of the Federal Motor Truck Co., Chairman; R. E. Chamberlain, of the Packard Motor Car Co.; J. D. Potter, of the American Motor Truck Co.; H. F. Harris, of the Republic Motor Truck Co., and A. E. Schaeffer, of the Gramm-Bernstein Motor Truck Co. It might be mentioned that this is an especially strong committee, from which real results may be expected.

A. C. Burch, of the Clyde Cars Co., spoke at the Friday afternoon session on "Financing Companies as Applied to Motor Trucks," and suggested that truck dealers could well afford to avail themselves of the financing facilities offered them by many reliable and competent companies now in the field. Several concerns, he said, have developed their dealers' financing plans to a point where they can be of the utmost service in handling the financial obligations of their clients, and should be used. He was followed by C. H. Hall, of the Continental Guaranty Co., who further explained the methods evolved for financing dealers safely and profitably.



The Local Committee on Arrangements

From left to right: Otto Armleder, President of the O. Armleder Motor Truck Company; R. C. Stewart, President of the United States Motor Truck Company; W. Schacht, Secretary and Treasurer of the G. A. Schacht Motor Truck Company, and F. J. Alvin, General Manager, U. S. Motor Truck Company, Chairman

The address by J. D. Potter, of the American Truck Co., on "Transportation" was the feature of the Saturday morning session. He spoke particularly of the dependency of the motor truck manufacturer on good highways for the expansion of his business, and urged the appointment of a federal highway commission, with control of road building throughout the country, that the federal government might supervise all main line roads with the states and counties building the feeder highways of the system.

R. B. Pullen, of the Midas Trade Mark Bureau, spoke on "Foreign Trade Mark Protection," and urged the motor truck manufacturers to protect their trade marks in foreign countries by registration in those countries.

A. F. McNaull, president of the McNaull Tire Co., spoke on "Pneumatic Tires" and brought forth many points which were of interest and value to the sales managers.

The association admitted to membership at this meeting the G. A. Schacht Motor Truck Co., of Cincinnati; the Day-Elder Motor Truck Co., of Newark, N. J.; the Oshkosh Motor Truck Manufacturing Co., of Oshkosh, Wis., and Commerce Motor Truck Co., of Detroit.

H. F. Harris, of the Republic Motor Truck Co., was elected a director vice F. J. Pardee, who recently went to California as coast distributor for Diamond T.

The members of the association and their guests were tendered a banquet at the Gibson Friday night, which was one of the most delightful affairs in the history of the organization. The Cincinnati committee in charge fairly outdid itself. The program was exceptionally interesting.

Former Governor Frank B. Willis was the principal speaker of the evening, and he spoke at length on the importance of the motor truck in the future of the rural and urban life of the country. Other speakers were J. F. Cast, of the Firestone Tire and Rubber Co.; Forrest J. Alvin, general manager of the United States Motor Truck Co.; Otto Armleder, president of the O. Armleder Motor Truck Co.; R. C. Stewart, president of the U. S. Motor Truck Co.; W. S. Schacht, of the G. A. Schacht Motor Truck Co., and C. A. Musselman, of the Chilton Co. J. E. Tracy, of the Sterling Motor Truck Co., president of the association, was toastmaster.

The association was splendidly entertained during its stay in Cincinnati, and the members were profuse in their compliments to the Cincinnati committee, which consisted of Messrs. F. J. Alvin, general manager of the United States Motor Truck Co., chairman; Otto Armleder, president of the O. Armleder Co.; William Schacht, secretary and treasurer of the G. A. Schacht Motor Truck Co., and R. C. Stewart, president of the United States Motor Truck Co.

On invitation of the Philadelphia Chamber of Commerce, the association will hold its next meeting at Philadelphia, April 10, 11 and 12.

EDITORIALS

The Three Per Cent Truck Tax

THE three per cent. tax on motor trucks, parts and trailers, although preferable to the five per cent. tax which was at first proposed, then eliminated from the bill, then replaced, on the principle that the motor truck manufacturers were not really limited in their production prior to the signing of the armistice, and because trucks have done considerable damage to the public highways, etc., goes to show that there are still a number of senators and congressmen who have not, as yet, been convinced of the unfairness of placing a tax on trucks, tractors, trailers and parts thereof.

It is an assured fact that the manufacturers will not pay the tax, but that the consumer will have to bear the burden. We realize, of course, that every individual in this country must pay his share of the cost of the war, and that there is a tremendous task ahead of Congress in giving every industry a square deal. But why single out the truck industry and put it in the same category with such unessential commodities as chewing gum and jewelry?

And is there any legitimate reason why motor trucks should be continuously black balled as road destroyers? Is the motor truck industry responsible for the roads that were built by our forefathers? Now that we know that poorly constructed roads and bridges will not stand up under continuous truck traffic, why not build the best roads we know how?

What we need is Government control of our road building program, so that each State down to the smallest community will observe certain regulations and adhere to certain standards in road building. As it is now, every State, yes, every road building contractor, has his own notions regarding road construction.

No Antagonism on Part of the Railroads

ALTHOUGH some narrow-minded railroad stockholders may be looking with contempt on motor truck transportation, the railroad executives are looking forward to greater activities in highway motor transport and to the ultimate discontinuance of short hauls via railroad.

The Railroad Administration has indicated its desire to get rid of the short haul traffic and the majority of railroad officials admit that it is not profitable. Contrary to general opinion, railroad officials are now assuming an antagonistic attitude toward highway motor transport, but are looking to the motor truck as a means of solving the short haul problem and incidentally making for greater efficiency in railroad haulage by eliminating the congestion at railroad terminals, freight warehouses, etc.

As to just what distances the truck is more economical than the railroad, varies considerably on account of the roads in some cases, mountainous country in others, etc.; but regardless of how perfect these conditions may be, the truck will necessarily have its limitations. Just what these limitations are is something the Highways Transport Committee is investigating as part of its work, by gathering statistics in many parts of the country so that it will be in position to give an unbiased opinion as to just what the distance is at which motor truck transportation is more economical. Such investigations on the part of the Highways Transport Committee will do much to eliminate false ideas regarding the extent to which motor truck haulage can be carried and incidentally correct the impression that trucks are going to compete with the railroad in long haul work. It is an assured fact, however, that the truck will eventually do all the short haul work formerly done by railroads and provide the missing link for the railroads and waterways by acting as feeders to both of them.

A Few Words About Our March Issue

OUR next issue will contain two important Reviews; the first a review of all the truck attachments now on the market, and the second a review of all the trailers which are used in connection with motor trucks. Both reviews will be illustrated.

Another feature of interest will be the continuance of the commercial car specifications as a monthly feature, but without illustrations. The review will contain the specifications of only such trucks as are actually being manufactured. These specifications will also include the chassis prices—and will therefore eliminate the regular price table which we have published in each issue for some time. The Commercial Car Review will be published every month and will therefore provide an up-to-date medium for making comparisons, checking prices, etc.

Parcel Post Demands Good Roads

Truck Prospects in Great Britain

By HENRY STURMEY

Whether or not American motor truck manufacturers will do a great export business to England is a question which cannot be definitely decided at the present moment. Mr. Henry Sturmey's article is timely on this subject, and being a well-known authority in the automotive industry on the other side of the water, his statements cannot be too heavily discounted.

NOW that the war is over and manufacturers are getting back to normal business once more, American producers of motor trucks will be casting their eyes again towards foreign markets and will no doubt be particularly interested in the prospects of trade with Great Britain, in view of the wonderful change which has taken place in the conditions pertaining both as regards production and consumption, not only throughout Europe, but the world. In past years and particularly in the two or three years ante-dating the war, Great Britain took an increasing number of American trucks each year and this market bid fair to prove a very promising one for the future. Has the war altered the position in any way, and if so, has the alteration been for better or worse, from the point of view of the American producer? To this question the answer is as yet difficult to give with any amount of certainty. So many entirely new factors enter into the consideration, and some of these factors will undoubtedly be considerably altered as time goes on.

British Firms Are Well Organized

Let us look at the situation as it stands today and the difficulty of prognostication will be seen. With few exceptions, British truck makers have been kept constantly engaged during the war on the production of trucks for the British and allied governments. Very few have gone on to other work except in the case of such firms as the Daimler Company, who, whilst still keeping their truck production up, made large factory extensions to take up aero and other work, but most of them have very considerably extended their plants. The British truck firms, therefore, are, as a whole, very much better situated as regards post-war production than almost any other industry, as their plant extension and organization has been entirely in the line of their regular work and they have not, as many other firms will have to do, to either scrap their war-time tool extensions or find entirely new uses for them. No re-organization, therefore, of fixed plant is needed to enable our truck houses to resume the supply of trucks to fill the needs of the commercial community as soon as their war contracts have been cleaned up. The only reorganization needed is the recasting of the design of the product, because war truck design is not altogether on all fours with commercial truck design. Peace requirements are of a less strenuous character than those of war, so that lighter vehicles are required and new designs will have to be got out, based on war-time experience, to fill the gaps between the war models. This will not take a great while and, so far as may be judged, our home firms will be able to take care of at least twice the number of trucks they produced before.

So far as demand is concerned, of that there can be little doubt. As general trade gets back to normal lines, the demand will be large. Nearly four years of cessation of supply has created a considerable shortage of trucks in the hands of business houses, in addition to which the value of the truck as an aid to business has been so fully demonstrated during the war that it is more universally recognized than before the hostilities commenced. We can therefore safely reckon on a greatly enhanced demand and without any absolute data to guide me, as no such are available, I am of opinion that this country can absorb about 25,000 or 30,000 trucks of various sizes annually for the next few years, as against some 10,000 or 12,000 formerly. Our home producers in the past have always done a considerable proportion of foreign trade in trucks and the demand from the overseas markets is sure to be also great; so that it seems to me that our truck builders will have still further to extend and other houses enter the field if they are to maintain their export trade and deal adequately with the home demand. That is, if normal pre-war conditions prevail. But will they? That is really the crucial point and that is the point which will decide the prospects of American producers here.

The British Government Trucks

In the first place, the home manufacturers are considerably perturbed as to the intentions of the Government in regard to the huge fleets of trucks in government service. Army requirements in peace are comparatively small. The Government is already erecting a huge repairing establishment near Slough, at an estimated cost of $7,500,000 for the repair of returned trucks and cars after the war. What is it going to do with them? Are they to be sold off as repaired by auction, or private sale, as seems likely? If so, the market will be flooded with trucks at a low price and the surplus demand will be more than filled, and as American trucks have previously got their sale in this market entirely by reason of their lower price, they will be the first to feel this competition. Again, fears are entertained because it has been stated that the U. S. Government is not intending to take its war trucks home again when the Army returns—it is understood to have 80,000 over here—but to sell them off on this side, and although most of them are in France and not here, this would fill up a large prospective market for the immediate future and so still further spoil the market for new trucks of all makes and nationalities. It may here be mentioned that the Fithian Fiat Co. has supplied 50,000 trucks to the allied governments and is turning out 75 a day.

Again. What are to be the prices at which British made trucks are to be marketed in future? That is important, as, unless she can compete in price, there is little or no market here for American trucks. So far, this price question is very uncertain. It is the general impression here that owing to the height to which wages have risen during the war, production of all classes of commodities after the war will be substantially higher than before it and that the price of British trucks will be high by comparison. But this is discounted by the fact that the only truck firm which has yet announced its new programme with prices is the Austin firm, which announces a 30 cwt. (3360 lb.) truck to retail at £450, or $1920, a drop of something like $500 on the market price for trucks of this class before the war, and as this firm has increased from having about 1200 hands to over 20,000, it should be well able to take care of supply.

Protective Tariff and High Freight Rates

If prices of British built trucks are to be on this scale, what are the prospects of American trucks competing? Here again we are still in the dark and much will depend on the future fiscal policy of our Government. There is a great call here for a protective tariff and already we have a 33 1/3 per cent. duty imposed on touring cars and equipment. If the new government brings trucks under this duty, I am afraid that the market will be absolutely closed to U. S. trucks, for, as above said, what trade has been done in this country has been on a price basis mainly. Until official pronouncement has been made on this point, the position is entirely uncertain. Besides this, however, there is another factor in operation at the present time which, in itself, so long as it operates, wipes out all possible chance for American trucks here. I refer to the ocean freightages.

From this I think it will be readily perceived that until these two important factors and the future prices of English trucks are settled, it is impossible to give any intelligent estimate of the num-

bers of U. S. trucks which this country will ultimately be able to absorb and that, so long as the high freight conditions obtain, they render competition in the immediate future impossible, and it is my opinion that, except for some of the principal component parts and for specialties in equipment having no counterpart here, there will be little or no market for the American truck industry in this country during 1919, and there may be very little afterwards, although, of course, shipping freightages will steadily decline as the world's supply of free shipping is restored.

Automobile Operators Must be Mentally Fit, Etc.

NEW YORK, Feb. 8.—At the January meeting of the Motor Truck Association of America, described elsewhere in this issue, Magistrate W. Bruce Cobb, of the Traffic Court, dwelt at length on the inadequacy of the laws, particularly with reference to those not mentally or physically fit and those who could not read or speak English, stating that steps were to be taken to correct these evils.

At a conference of State and city officials, automobile and motor truck association representatives at the Traffic Court today, Magistrate Cobb explained the amendments for which he is sponsor. One of these is directly aimed at the driver of a truck who cannot read or speak English. Another provides that before a license be granted that the applicant prove his physical, mental and moral fitness.

Those desiring to learn to operate trucks, "students," so called, are to be given a 10-day permit, during which time a licensed driver will have charge of the "student," who will be expected to become proficient before he makes application for an operator's license. At present the law makes a "student" a violator of the law when driving for practice, etc.

White Will Make Trucks Only

CLEVELAND, OHIO, Feb. 1.—The White Co. will devote its entire time to the manufacture of trucks, not withdrawing entirely from the passenger car field, however. The company does not intend putting out a passenger car at present and has not manufactured passenger cars since the outbreak of the war.

Geuder, Paeschke & Frey Co., Milwaukee, Wis., maker of pressed steel parts, including oil pans, gas tanks, radiator shells, gear covers, etc., has prepared a calendar for distribution, which shows the number of working days in 1919 and 1920. It is printed in color to resist dirt, and contains, on the reverse side, a comparative table of thickness of various sheet metals and their respective gauges, a table of decimal equivalents for fractions and the United States Standard Gauge for sheet iron and steel.

Third Bordeaux Sample Fair

The third Bordeaux Sample Fair, which is to take place May 16 to 31, offers an excellent opportunity to American manufacturers not only for the sale of their products in the southwestern part of France and in French colonial territories, but for the procurement of raw materials which are produced in those regions, according to *Commerce Reports*.

As there was no Bordeaux fair in 1918 the prospects for success of the coming fair are unusually good, and for this reason it deserves the special consideration of American manufacturers and traders. American exhibitors at the Lyons Fair, which is to take place in March, should not fail to arrange for the removal to and display of their exhibits at Bordeaux. A movement is under way to transfer the whole American consular booth from the Lyons fair to the Bordeaux fair.

The Bureau of Foreign and Domestic Commerce will furnish the names of firms in Bordeaux desiring agency arrangements for American goods to manufacturers desiring representation in that city.

The representative in the United States of the Bordeaux Sample Fair is Lamontagne Chapman, 101 Park Ave., New York.

Trucks to be Under Discussion at Roadmakers' Congress

NEW YORK CITY, Feb. 10.—Papers to be read at the Ninth American Good Roads Congress, and the Sixteenth Annual Convention of the American Road Builders' Association, at the Hotel McAlpin, February 25-28, by prominent highway authorities and reports by committees will present various projects for highway improvements in their relation to motor truck use.

National Highways and Federal Aid for State Highway Improvements; Relation of Highways to Railways and Waterways, and Foundations of Heavy Horse-Drawn and Motor Truck Traffic, are two of the papers to be presented.

Hurlburt Receiver for Hurlburt Motor Truck Company

NEW YORK CITY, Feb. 3.—Following the filing of a petition in bankruptcy against the Hurlburt Motor Truck Co., William B. Hurlburt has been appointed receiver for the company. This action will enable the company to continue production.

The company has, for the past nine months, been engaged almost exclusively on war work, and according to Hurlburt's statement "the sudden termination of these contracts, together with a very heavy inventory, made it particularly hard for the company to rearrange its production for a strictly commercial market."

Truck Tonnage on License Plates

NEW YORK CITY, Jan. 27.—A bill has been introduced in the New York State legislature to amend a section of the Highway Law by adding a subdivision requiring that the number plates on all motor vehicles constructed or specifically equipped for the transportation of goods, wares and merchandise and used or to be used for such purposes and commonly known as automobile trucks and those vehicles commonly known as trailers, shall show the tonnage of such vehicle in numerals, such numerals to be of the same size and to immediately precede the registration number and to be separated therefrom by a hyphen.

City to Have Motor Truck Lines

EVANSVILLE, IND., Feb. 1.—Graham Brothers are planning to establish regular motor truck service over the country roads in the vicinity of Evansville. It will open a new field for merchants and will offer farmers another method of getting their produce marketed. The plans have not been completely worked out as yet, but it is known that the present plans provide for fleets of trucks to make regular daily trips over the more important roads leading out of the city. It is hoped to have the plan in full operation by midsummer. The firm expects to build its own trucks to be used in the fleets.

New York Streets Designated for Trucks

NEW YORK, Feb. 2.—New traffic regulations and dealing with commercial cars, went into effect last evening at midnight, and the following are designated for trucks between 7 in the morning and 6 at night:

First Avenue, Houston to 59th Street.
Third Avenue, 5th to 59th Street.
Sixth Avenue, 3rd to 59th Street.
Eighth Avenue, Abingdon Sq. to 23rd St.
Tenth Avenue, 14th to 59th Street.
Park Row, Chambers to Division Street.
Bowery, Grand to 5th Street.
Center Street, Pearl to Broome Street.
West Broadway, Vesey to 4th Street.
Hudson Street, Chambers to 14th Street.
Church Street (Trinity Place), Fulton to Morris Street.

Studebaker Plans Expansion

SOUTH BEND, IND., Feb. 1.—At a dinner tendered President Erskine, of the Studebaker Corp., by the South Bend Chamber of Commerce, on January 30, Mr. Erskine announced plans for increased production and expansion of manufacturing facilities.

Factory additions, erected during the war for production of Government materials, will form the beginning of the extension, which, when completed, will provide 4,000,000 sq. ft. of floor space.

Housing facilities for the increased force of employees are being planned, as it is expected that the present working population of the city will be doubled.

Road Building and Truck Weights Discussed at National Highway Traffic Association Meeting

By C. P. SHATTUCK

NEW YORK, Feb. 1.—If it served no purpose other than bringing together the highway commissioners and engineers of various states, operators of fleets of trucks and representatives of the commercial car industry, the conference on "Regulations Covering Speed, Weight and Dimensions of Motor Trucks," held by the National Highway Traffic Association last night, was productive of results, for it made possible a clearer conception of the problems of the road builder, those of the user of the highways and the attitude of the truck manufacturer.

George H. Pride, chairman of the committee on truck regulations, in opening the discussion, called attention of the sentiment in some communities of class prejudice against the motor truck. He said that inasmuch as the costs of transportation are paid by the public, that the enactment of laws decreasing the economic capacity or increasing the costs of operation of the truck increased costs to the consumer, that if the truck injures the highways the taxpayer pays, therefore the interests of the State Highway officials and truck users are allied.

Advocates Limit in Weight

State Engineer Thompson, of New Jersey, urged that the Highway officials and truck manufacturers join forces in determining the maximum truck weights, type of roads, etc., stating that, while those interested in good roads were marking time, that the highways were depreciating and wearing out. "We road engineers have got to recognize that trucks have come to stay, that the numbers will greatly increase and that roads must be built to endure. But we must know what factors we will have to consider in construction, what the ultimate maximum weight of the truck is to be, before we can determine types. In New Jersey we limit the gross weight to 15 tons." The speaker said he did not believe slow speed was feasible and discussed the gross maximum load of 28,000 lb., suggested by George M. Graham, chairman of the National Truck Committee, at the Highway Congress held at Chicago in December, a report of which appeared in the January issue of the COMMERCIAL CAR JOURNAL.

Uniform Law Not Feasible

Charles G. Bond, counsel of the Motor Truck Association of America, Inc., spoke on uniform laws. He said that there were too many details, State problems, etc., to make a uniform law practical and urged that, if such a law be enacted, it be made sufficiently elastic to care for any unusual work, such as transportation of material, etc., in the construction of public enterprises, such as a tunnel, for example. He suggested that the State officials have the authority to issue permits for such transportation as well as called attention to the necessity of considering the method of load distribution, having in mind the use of semi-trailers and trailers, where it was possible to carry heavier loads than the maximum prescribed without injury to the highways.

South Favors Light Trucks

E. W. James, of the Bureau of Public Roads, created no little surprise when he stated that in his opinion it would be difficult to get states other than in the northeastern part of the country to adopt a law permitting of the operation of trucks of a gross load of 6 tons or over, and that official sanction had been given to the construction of a bridge of 9 ft. 6 in. on the main highway of a certain State.

He quoted a number of statistics showing the trend of road construction since 1904, giving percentages and mileages, and these showed that 93.1 per cent. of the State highways constructed after the Federal Act law was passed were earth, sand, gravel, clay and water-bound bituminous, that the building of roads of this type was not due to lack of materials but to a lack of funds. He believed the suggested maximum gross load of 28,000 lb. was excessive, that a 2 to 3-ton truck was more practical as the greater majority of the roads were adapted only for light trucks. His statements were productive of much discussion, the tenor of which was not favorable to the policies suggested or practiced in the section referred to by the speaker.

Danger of Preaching Speed

H. S Quine, of the Goodyear Tire & Rubber Co., described the experiences of his company with pneumatic tires on trucks and said that it was probable that prejudice against trucks might be created by referring to the speed possible with the use of pneumatics on trucks. He said the function of the pneumatic was to obviate delays when traversing rough roads and to increase the radius of the operation of the truck.

One of the most interesting speakers of the evening was President Williams, of the Good Roads Association of West Virginia, who cited as a need of good roads the case of where potatoes were brought across the ocean, shipped 360 miles by rail and sold at a price less than that that could be obtained by a farmer 14 miles inland without suitable roads. The speaker urged the necessity of educating the public to needs of transportation and what he is paying for now.

The speaker said that constructing trunk lines with secondary roads and feeders would solve the transportation problem and advocated a 20-year program, with the Government paying one-half, the State 30 per cent. and the local communities the balance. He advocated the uniform construction rather than uniform laws and a campaign to educate the public to the necessity of good roads.

Engineer Masury Suggests Standards

Chief Engineer Masury, of the International Motors Co., suggested that the size or capacity of the truck was not the solution of the highway construction problem. He pointed out that there were not, in this country, any standards dealing with the relation of the truck to highways and that there were a number of factors other than those dealing with weights and carrying capacity of trucks to be considered and suggested that the road engineers emulate the example of European highway engineers and obtain this data. In the discussion that followed various suggestions were made and it developed that an investigation along the lines suggested was in progress.

Charles Upham, State engineer of Delaware, and T. J. Wasser, county engineer of New Jersey, and several others described the laws of their States, etc. The association adopted the resolution of the Highway Congress held at Chicago in December.

Need of Unity in Road Construction Work, Metzger Says

NEW YORK CITY, Feb. 1.—Wm. E. Metzger, member of the Good Roads Committee of the National Automobile Chamber of Commerce, in a recent article on the subject of road construction, reviews the work already accomplished in the building of public roads. He shows how the number of roads increased with the demand for them, not according to any definite plan or system, but springing up here and there, as the necessity for them was felt. He makes a plea for the construction of a national system of highways, built with an eye to future as well as present use. He points out that up to the present time the only states which have ever taken a traffic census are Illinois, Massachusetts and New York, while Colorado has taken one, extending over a period of one month's time.

Although it contains a department of research, the Bureau of Public Roads of the Department of Agriculture has never undertaken a nation-wide survey of traffic, yet it is estimated that $300,000,000 will be expended on roads in the United States this year by the states alone, while the Government has a fund of approximately $29,000,000 ready to add to this figure.

A summary of the roads of the country shows that at the present time there are some 2,500,000 miles of road, of which twelve per cent. may be classed as improved and one-quarter of one per cent., as capable of carrying heavy traffic. Yet, when Germany entered the

war in 1914, Prussia alone had 75,000 miles of hard surfaced roads, and to be equally well provided with transportation facilities in proportion to the size of the two countries, the United States would need to have 1,611,914 miles of hard surfaced ways.

In 1916 Congress passed the first Federal Aid road act, which provided a sum of $5,000,000 for use in the fiscal year, to be matched dollar for dollar by the states. This figure was increased to $10,000,000 in the fiscal year of 1917, and for the present period of 1918, which extends to June 30, 1919, the amount so appropriated is $15,000,000.

Of this amount figures supplied by the Bureau of Public Roads of the Department of Agriculture show that 12 projects, embracing but 51 miles of road, had been reported constructed to December 16, 1918, at a cost of $617,548, on which Federal aid to the extent of $260,660.19 had been paid out.

Projects approved to date number 755, and involve the improvement of 7,867 miles at an estimated cost of $57,632,000, of which the Federal Government has been requested to contribute $21,602,000.

The money so given to the states has been distributed over various districts of the states, and while in the long run, the outcome will be to improve all of the roads, the present appearance of the map of almost any state shows the Federal aid work as disconnected units, sometimes beginning and ending as did the old district highways, in the mud.

Now, opposed to this plan, if plan it can be called, is the outline for action which was recently passed in the form of a resolution by the Highways Congress, and which demands definite action by Congress, along these lines:

1. Creation of a national system of highways consisting of not less than two main trunk lines in each state and joining the national highway system in adjacent states and counties. A task of this nature is obviously too much for the states to handle, hence the sum of $425,000,000 is asked of the Government for use in construction of this system over a period of six years.

2. If it is important that this system be constructed, it is even more important that before expenditures on such a large scale as that proposed be undertaken that a close study shall be made of the sources of transportation, and that these routes shall be constructed to meet the demands, not only of the present traffic, but of the new traffic which will be created by these highways. Hence a Federal highway commission, acting with the state highway departments, is suggested instead of the present method of handling the work by a bureau under a department.

3. Finally, in recognition of the fact that the states need Federal aid and that work on "feeders" into trunk lines must be continued, even while the main stems are being constructed, an increase of $200,000,000 is asked in the present act for a period of six years.

This would bring the total asked for to $625,000,000, which would permit the construction of 31,250 miles of hard surfaced ways, at an average cost of $20,000 per mile, in addition to the mileage now provided for.

Machine Tool Makers Meet War Department Representatives

WASHINGTON, Jan. 8.—A meeting attended by prominent members of the machine-tool trade, was held January 16 in the office of the Director of Sales, War Department.

Facts were brought out at this meeting which indicated that the immense and vague figures, which have recently been circulated in the public press as to the value of the surplus government-owned machine tools, which would soon be put on the market, were not warranted. It is hoped that the industries can absorb within a reasonable time all the surplus government-owned standard machine tool equipment without being seriously disarranged.

The following tentative agreement, which is highly satisfactory both to the representatives of the Government and to the trade, has been made:

1st. The inventory of all machine tools and equipment which is being made will be expedited to the greatest possible extent.

2nd. As soon as it is known that a quantity of machine tools is available for disposal, the manufacturers of these tools will be given an opportunity to purchase them at a price and on terms of settlement which will be satisfactory to all parties concerned.

3rd. In case it is impossible for the manufacturer to purchase his product outright, an effort will be made to arrange for the marketing of the product by the manufacturers in an equitable manner, securing for the Government and the manufacturer alike the best possible terms.

4th. In case both these methods of disposition fail, the material will be offered for sale to the general public in a manner prescribed by law.

In the settlement of plant contracts which involves the sale of large groups of various kinds of tools and equipment, an effort will be made to prevent the sale for resale of any equipment, as it is realized that great injury could be done by indiscriminate sales of this character.

Commerce District Managers Hold Conference

DETROIT, MICH., Jan. 30.—A conference of the district sales managers of the Commerce Motor Car Co. has just been completed, and they have started for their respective territories. Director of sales and advertising, George D. Wilcox, announces their names as follows: W. H. Brinkerhoff, W. B. Wood, William J. Ward, N. R. Horner, S. Wier, L. J. Stevenson.

New York Dealers to Get Together on Used Truck Problem

NEW YORK, Feb. 6.—The old problem, the used truck, has bobbed up again in this city. There is no gainsaying the fact that the acceptance of a used car as part payment for a new one is working like a two-edged knife in many instances, particularly when some of the methods employed are carefully analyzed. At the present time there are some dealers who will not accept other than their cars as part payment, while others refuse their own. There is another class that will accept foreign makes as well as their own.

There appears to be as many angles to the used truck problem as degrees in a circle, judging from the experiences cited by those dealers who have been attending a series of informal conferences during the past few weeks, and at which efforts have been made to launch a movement to correct the evils of the used truck problem. The conferences have resulted in the determination of a certain number of dealers to bring all truck dealers together to discuss the subject.

A committee has been appointed, with W. H. Moore, of the Garford Motor Truck Co., as chairman, and efforts will be made to effect the attendance of the majority of dealers at a meeting of organization. At the conference held yesterday afternoon it was decided to hold a meeting the week following the commercial car show. One of the dealers present stated that the commercial car dealers of Boston were confronted by conditions similar to those obtaining in this city, and efforts were being made to solve the problem.

Oliver to Handle Motor Equipment on Board of Sales Review

WASHINGTON, Jan. 29.—Details of the plan of organization of the Office of Director of Sales of the War Department are given in a bulletin which will be put out by the War Service Executive Committee of American Industries to members of the 400 War Service Committees organized under direction of the Chamber of Commerce of the United States.

Under the Director of Sales, C. W. Hare is an assistant; E. C. Morse serves as chairman of the Board of Sales Review, comprising the following members besides Mr. Morse: Lt. Col. A. LaMar, Maj. W. M. Crunden, Col. Fred Glover, L. H. Hartman, G. F. Woods, Capt. A. L. Mercer, Capt. T. S. Schultz. Each of these members of the Board is a Division Sales Manager, with the exception of Capt. Schultz, who is legal member on the Board.

Colonel Glover will handle trucks and motor equipment, including trucks, motors, motorcycles, side cars and surplus supplies and repair parts pertaining thereto, animal and hand-drawn vehicles.

Latest List of Chairmen and Secretaries of Highways Transport Committees

Chairmen and Secretaries of the State Committees

Alabama—
John Craft, Chairman, Mobile, Ala.
J. B. Rylance, Secretary, Bell Building, Montgomery, Ala.

Arizona—
Thos. D. Shaughnessy, care State Council of Defense, 118 N. Central Ave., Phoenix, Ariz.

Arkansas—
Wallace Townsend, Director, State Council of Defense, Boyle Building, Little Rock, Ark.

California—
Wm. L. Hughson, Chairman, 1101 Van Ness Ave., San Francisco, Calif.
L. E. Watkins, Secretary, 1628 Van Ness Ave., San Francisco, Calif.

Colorado—
S. E. Norton, Chairman, care State Council of Defense, State Capitol, Denver, Colo.
H. R. Welter, Secretary, care State Council of Defense, State Capitol, Denver, Colo.

Connecticut—
Major Louis H. Ullman, Director, Division of Highways Transport, care War Bureau, 673 Chapel St., New Haven, Conn.

Delaware—
Frederick Brady, Chairman, Middletown, Del.
Louis Klee, Secretary, care Chamber of Commerce, Wilmington, Del.

District of Columbia—
William P. Eno, 1771 N St., N. W., Washington, D. C.

Florida—
William F. Cocks, care State Highways Commission, Tallahassee, Fla.

Georgia—
J. Oscar Mills, care State Council of Defense, Atlanta, Ga.

Idaho—
Wm. H. Turner, care Bank of Kimberly, Kimberly, Idaho.

Illinois—
Henry Paulman, Chairman, 2420 S. Michigan Ave., Chicago, Ill.
F. E. Ertsman, Secretary, care State Council of Defense, 120 West Adams St., Chicago, Ill.

Indiana—
(Chairman resigned).
W. W. Winslow, Secretary, care State Council of Defense, Indianapolis, Ind.

Iowa—
J. D. Eggleston, Chairman, care State Council of Defense, Des Moines, Iowa.
H. J. Metcalf, Secretary, care State Council of Defense, Des Moines, Iowa.

Kansas—
W. C. Markham, care State Council of Defense, Topeka, Kans.

Kentucky—
L. J. Hannah, care State Council of Defense, Louisville, Ky.

Louisiana—
B. F. Thompson, care Thompson-Ritchie Grocer Co., Alexandria, La.

Maine—
(Not organized).

Maryland—
(To be reorganized).

Massachusetts—
(Organization disbanded).

Regional Chairmen and Their Territory

Region.
1—J. Randolph Coolidge, Jr., care Committee on Public Safety, State House, Boston, Mass. (Massachusetts, Maine, Vermont, New Hampshire and Rhode Island.)
2—Peter G. Ten Eyck, 74 Chapel Street, Albany, N. Y. (New York and Connecticut.)
3—C. A. Musselman, care The Chilton Company, 49th and Market Streets, Philadelphia, Pa. (Pennsylvania, New Jersey, Delaware, Maryland and Virginia.)
4—W. Tom Winn, 608 Walton Building, Atlanta, Ga. (Tennessee, North Carolina, Georgia, Alabama, Mississippi and Florida.)
5—Harry L. Gordon, Provident Bank Building, Cincinnati, Ohio. (Michigan, Indiana, Ohia, Kentucky and West Virginia.)
6—John T. Stockton, 1020 South Canal Street, Chicago, Ill. (Illinois, Wisconsin, Iowa, Missouri, Kansas and Nebraska.)
7—C. M. Babcock, 920 Guardian Life Building, St. Paul, Minn. (Minnesota, North Dakota, South Dakota and Montana.)
8—J. F. Witt, Court House, Dallas, Tex. (Texas, Oklahoma, Arkansas and Louisiana.)
9—Tom Botterill, 1278 Broadway, Denver, Colo. (Colorado, Utah, Wyoming and New Mexico.)
10—Julius L. Meier, care Meier & Frank, Portland, Ore. (Oregon, Washington and Idaho.)
11—L. A. Nares, care U. S. Food Administration, Lashmann Building, San Francisco, Calif. (California, Nevada and Arizona.)

Michigan—
W. R. Metzger, Chairman, care War Board Offices, Owen Building, Detroit, Mich.
Burt Wickham, Secretary, care War Preparedness Board, Lansing, Mich.

Minnesota—
C. M. Babcock (also Regional Chairman), 920 Guardian Life Bldg., St. Paul, Minn.
H. G. Davis, Secretary (same address as Chairman).

Mississippi—
Xavier A. Kramer, care State Highway Department, Jackson, Miss.

Missouri—
A. C. McKibbin, care State Highway Department, Jefferson City, Mo.

Montana—
Oscar Rohn, care State Highway Commission, Butte, Mont.

Nebraska—
George E. Johnson, 410 State House Bldg., Lincoln, Nebr.

Nevada—
Tasker L. Oddie, Gazette Bldg., Reno, Nev.

New Hampshire—
Wm. G. Spear, 87 Granite St., Manchester, N. H.

New Jersey—
David Harper, Chairman, 22 Washington Place, Newark, N. J.
A. D. Way, Jr., Secretary, 22 Washington Place, Newark, N. J. (Care Motor Truck Club of N. J.)

New Mexico—
George Singleton, Clovis, N. Mex.

New York—
Peter G. Ten Eyck, 74 Chapel St., Albany, N. Y. (Also Regional Chairman).

North Carolina—
Col. Bennehan Cameron, Chairman, Motor Transportation Committee, Stagville, N. C.

North Dakota—
A. Y. More, care More Bros. Corp., Fargo, N. D.

Ohio—
W. A. Aldsdorf, Chairman, 1010 Hartman Bldg., Columbus, Ohio.
Geo. F. Rudisill, Secretary, 1010 Hartman Bldg., Columbus, Ohio.

Oklahoma—
Max L. Cunningham, Chairman, care State Highway Dept., Oklahoma City, Okla.
Nettie E. Johnson, Secretary, care State Highway Dept., Oklahoma City, Okla.

Oregon—
Garfield P. Datson, Eugene, Ore.

Pennsylvania—
David S. Ludlum, care The Autocar Co., Ardmore, Pa.

Rhode Island—
Fred W. Aldred, Chairman, Commercial Economy Board, care State Council of Defense, Providence, R. I.
Byron A. Pierce, Secretary, Commercial Economy Board, care State Council of Defense, Providence, R. I.

South Carolina—
E. R. Buckingham, Chairman, Motor Transport Committee, Ellenton, S. C.

South Dakota—
J. R. Dalton, Woonsocket, S. Dak.

Tennessee—
J. J. Murray, care State Highway Dept., Nashville, Tenn.

Texas—
J. F. Witt, Chairman (also Regional Chairman), Court House, Dallas, Tex.

Utah—
J. H. Manderfield, care State Council of Defense, Salt Lake City, Utah.
Arch M. Thurman, Secretary, Highways Transport Committee, care State Council of Defense, Salt Lake City, Utah.

Vermont—
F. H. Babbitt, Bellows Falls, Vt.

Virginia—
George P. Coleman, Chairman, care State Highway Commission, Richmond, Va.
C. S. Mullen, Secretary, care State Highway Commission, Richmond, Va.

Washington—
W. C. Baldwin, 722 Broadway, Tacoma, Wash.

West Virginia—
Alfred E. Kenney, Box 564, Parkersburg, W. Va.

Wisconsin—
John G. D. Mack, care Dept. of Engineering, Madison, Wis.

Wyoming—
M. P. Thompson, care State Council of Defense, Cheyenne, Wyo.

N. A. C. C. Truck Convention Discusses Possibility of Truck Overproduction

Export Field for United States Trucks Jeopardized by Increased European Manufacturing Facilities. Bad Roads Here Limit Truck Sales. Uniform Vehicle Laws Proposed

OWING to an unfortunate fall from a horse, President Windsor T. White, of the White Co., Cleveland, was unable to preside at the convention. Geo. Graham acted as chairman. In his opening address, he asked for the co-operation of the truck manufacturers in every way with the N. A. C. C., and called attention to the discontinuance on Jan. 1, 1919, of the Motor Truck Committee of the N. A. C. C., of which he had been chairman. Its work will now be carried on by the regular Commercial Vehicle Committee of the Chamber.

C. A. Wales Fears Overproduction

In a paper replete with facts and figures gathered at first hand while in Europe, C. A. Wales, truck sales manager of the Locomobile Co. of America, called attention to the limiting factors of truck sales.

Truck Sales to Europe Difficult

Concerning post war conditions in Europe, he said, "they are making more plans today to go after the truck business of the world than we are in the United States. Their factories now have the equipment, trained men and quantity production methods to turn out the trucks. Sales of American trucks in Europe will not only be difficult, but European manufacturers will compete with us in foreign markets. The tool equipment of European factories is now five times what it was in 1914. England can produce enough trucks and tractors for all of Great Britain and her colonies.

"France, before the war, made trucks by hand, aided by machine tools, but no real standardization. Now all is changed—progressive assembling and interchangeability of parts is the rule. The French have taken advantage of every improvement found in American cars and trucks during the war.

"Italy's big Fiat factory will now have government aid in order to produce cars in enormous quantities, not only for home consumption, but for export.

"Australia is strong for England, and will take her goods in preference to ours, and will also establish large assembling plants."

Truck Production and Its Limitations

On Jan. 1, 1919, there were in use in the United States, 4,941,248 cars and trucks. About 608,000 of them are trucks. Registrations for 1917 were 110,000; 1918, 165,000, while according to C. C. Hanch, of the Automotive Products section of the War Industries Board, there will be 300 to 325 thousand trucks built in 1919.

The question is, can this country build and sell three times as many trucks in 1919 as in 1917? Now as to the three limiting factors:

Traffic conditions in cities;

Bad roads outside cities;

General business conditions.

Sale of trucks is limited by congestion of traffic in most crowded sections of large cities, or the neck of the bottle, so to speak.

According to Wales, 65 per cent. of all trucks are used in cities.*

Outside of the cities the bad roads limit sales as only one-fourth of one per cent. of roads are suitable for trucks. The war has shown that we must build roads for the trucks and not trucks for the roads. Cars and trucks will force the building of suitable roads, but it will take time. The Government will not be in the market for trucks for some years.

Disposition of Government Trucks

The second speaker on the program was Colonel Fred Glover, Quartermaster's Department, U. S. Army, Washington, D. C. After thanking the manufacturers for the way in which they had cooperated during the war, and the spirit in which they had accepted the large number of necessary cancellations, he again assured the automobile industry in as positive terms as possible that absolutely no trucks or cars had been sold by the Government, nor would be sold without the makers of those particular vehicles first being consulted in the matter.

Although the Colonel was unable to speak freely for publication at this time, still he was able to make assurance more certain than before that the automobile and truck industry need have no fear whatever of any action on the part of the Government which would have an injurious effect on the industry. There seemed to be an optimistic feeling that the Government would have need for a very large number of vehicles for its various departments, particularly as we are now to have a much larger standing army than ever before.

The Colonel promised the Chamber that probably within two or three weeks a definite answer can be made, as to the disposition which the Government will make of its surplus. The selling of certain cars and trucks by the Spruce Corporation, which used these vehicles in lumbering operations, lead to rumors that the Government was selling Army vehicles, but the Colonel pointed out that these were not owned by the Government, and were not sold by the Government, but were the property of the above mentioned corporation. He again reiterated that any rumor of the sale of either cars or trucks by the Government up to this time, February 10, was absolutely a fake.

Several suggestions were made that some of the Army trucks be disassembled and used as replacement parts,

Resolutions Passed by N. A. C. C.

WHEREAS, the importance of an adequate system of improved highways in the United States has been accentuated by the war conditions prevailing during the last four years and the policy of vesting responsibility for the proper development of the highways in the State Government has failed to produce a system of national highways, and

WHEREAS, the U. S. Department of Labor has formally requested our industry and all other industries to help bring about the increased building of roads to insure the proper employment of labor, especially our returned soldiers, and

WHEREAS, a national system of roads is essential to national defense and the development of interstate commerce, be it

RESOLVED, that this meeting of motor truck manufacturers use all its influence to bring about additional road building at all times, and be it

FURTHER RESOLVED, that this meeting heartily endorses the resolution adopted by the Highway Congress at Chicago and by the National Automobile Chamber of Commerce, calling for the creation by the Congress of the United States of a Federal Highway Commission with the necessary powers and appropriations to construct, maintain and control a complete system of national highways suited to the economical development of traffic.

WHEREAS, the National Automobile Chamber of Commerce, in affiliation with representatives of the American Automobile Association, the Highway Industries Association, the Highways Transport Committee and various highways engineers and commissioners, has worked out a series of recommendations governing the height, weight, width and speed of motor vehicles, and covering also the proper charges to be assessed against these and other vehicles, and

WHEREAS, it is planned that these recommendations shall be made the basis of a uniform highways law to be enacted by the legislatures of the various states, be it

RESOLVED, that the motor truck manufacturers of the United States, in convention assembled, do hereby heartily approve the provisions of the law as stated, and pledge their co-operation to in every way possible advance its enactment in all the various states.

* Editor's Note.—According to B. F. Goodrich Co., 65 per cent. of trucks are on the farms.

but the point was brought out that a very large stock of replacement parts was already on hand for this purpose, especially during times of peace.

The use of trucks for road building was also discussed, and the information given that Section 7 of the Post Office Bill, which passed the Senate February 9, and which will be before the House in a few days, provides expressly for the use of surplus Army equipment in various states in the road building program.

A Plea for a National Highway System

The third speaker was E. J. Mehren, editor of the *Engineering News Record*, New York. Mr. Mehren favors the establishment of a special federal highway commission, with power to create a comprehensive national highway system. Briefly he pointed out that the opposition to this plan by many of the state engineers was largely due to their belief that if it went into operation the present federal aid appropriations for roads would be cut off. This he branded as a fallacy, for the following reasons: Any national highway system could not supply radiating roads to large centers of population in various states. These roads are absolutely necessary in and about cities, and the federal road system would be inter-state in its usefulness and would be laid out with a broad view of the country as a whole in mind. For this reason the individual states would have to care for such radiating systems of roads as would be needed, and for this work federal aid would still undoubtedly be contributed. He further said that only 4 per cent. of the roads in the United States would have to be used to make a National Highway System.

One of the drawbacks to the advancement of the road program is the fact that modern motor road transportation is barely ten years old, having made in ten years as great progress as the railroads made in fifty years, namely, from 1830 to 1880. The one hundred million people of the United States are still thinking in terms of horse-drawn traffic.

He did not believe that anything short of a special federal commission, with full power to go ahead and build the roads across the continent, would be successful. In other words, he did not favor individual state efforts in the matter, or individual states supplying a part of the appropriation for the construction of the federal highways passing through such states.

George M. Graham, general sales manager of the Pierce-Arrow Motor Car Co., Buffalo, discussed results of committee work on the subject of the limitation of weights and speeds, and license fees on motor trucks for use in a proposed uniform vehicle law. He requoted certain figures, namely, that 27.6 lb. pull were all that is required to move a one-ton load on a proper surface, while 218 lb. is very often required over our so-called roads.

Proposed Truck Height, Width and Speeds

Ninety-six inches was decided upon as ample width of any truck, and 12 ft. 2 in. was the maximum height determined upon, 800 lb. per inch of tire width, the maximum load, and 28,000 lb. the maximum total weight of vehicle under load.

In regard to speeds, the following suggestions were made:

In City Limits

4000 lb. weight—20 m.p.h.
8000 lb. weight—18 m.p.h.
12,000 to 28,000 lb. weight—15 m.p.h.

Outside of Cities

4,000 lb. weight—25 m.p.h.
8000 lb. weight—20 m.p.h.
12,000 lb. weight—18 m.p.h.
16,000 lb. weight—16 m.p.h.
other sizes—15 m.p.h.

The committee decided to charge in the way of license fees for weight and horsepower as being the two destructive elements, as follows: Pneumatics, per horsepower 25 cents, plus 25 cents tax on every 100 lb. of gross weight; solid tires, per horsepower 25 cents, plus 35 cents tax per 100 lb. gross weight; iron or steel tires, per horsepower, 25 cents, plus 50 cents tax per 100 lb. gross weight. The rate for road tractors was exactly the same.

The committee's report was approved and the resolutions herewith published were adopted by the Truck Manufacturers' Convention. The session then adjourned and the members present enjoyed an excellent buffet luncheon.

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The Afternoon Session

Pertinent suggestions for standardizing the charges for work done on trucks were made at the afternoon session by David C. Fenner, of the International Motors Co., New York City. He pointed out the necessity of the manufacturer giving heed to standardized charges for demonstrations, service, repairs and the need of a more adequate parts policy. He said that no radical changes in truck design had been made during the past two years, and that the development of the motor truck has not yet reached the ultimate type. Mr. Fenner brought out the fact that it might also be necessary to bring about radical changes in body design and loading methods, and hinted that truck engineers could take example from the marine engineers' product, which is weatherproof, although exposed to the elements, contending that the modern truck engine is hidden under a hood where it does not always receive the attention it should.

Advocates Better Salesmen

Mr. Fenner defined the conventional parts of the chassis, which could be improved, and pointed out how various methods could be utilized to obtain the same end in engineering practice. He advocated, if possible, a better or standard method of handling salesmen, of training men along practical mechanical lines so they would more properly represent the manufacturer. Such an education would, he said, result in more satisfactory sales. He also pointed out the need of a standard operating cost system, and of the shop trucks of the manufacturer being kept more neat when appearing in public.

Tire Sizes Discussed

Through a report submitted it developed that there was some opposition to the adoption of certain sized solid tires, particularly with reference to the proposed 36 x 4 in. in place of the 34 x 4 in. The report showed that some eight or ten makers were not in sympathy with the movement. A representative of a tire manufacturer explained briefly the position of the maker, after which a committee was appointed to confer with the tire manufacturers.

The Highway, Truck and Distribution

James I. Blakslee, Fourth Assistant Postmaster-General, not only spoke very interestingly in his address, "Improved Efficiency in National System of Distribution Through Co-operation of Highways, Motor Trucks and the Mail Service," but he won his audience by his firm stand on the need of good highways and his attitude towards the truck. He pointed out how the use of trucks would solve many economic problems, including the high cost of living, unemployed soldiers, etc.; in fact, he embodied in his address practically the plan outlined by him in the interview given by him to the Directing Editor of the Chilton publications, and which appeared in the January issue of the COMMERCIAL CAR JOURNAL. Mr. Blakslee cited many specific instances where use of trucks had reduced the cost of commodities to the consumer. He advocated that the cost of constructing and maintaining proper highways be borne by the users, and suggested that both passenger cars and trucks be taxed according to either mileage or load. He closed by stating that only by increasing the efficiency of distribution, by cutting out the useless and wasteful handlings, could transportation costs be reduced, and that transportation, not reduced wages and cost of material, would effect the reduced costs to the consumer, the public.

Adopts Resolution

A rising vote of thanks was given the speaker, and the following resolution was adopted:

WHEREAS, the establishment and operation of daily motor truck mail service for the transportation of all classes of postal matter, including parcel post packages, over routes not directly or sufficiently served by railway mail, will stimulate the development and prosperity of many rural communities by increasing the production and shipment of food, facilitating communication with other sections of the country and elevate the educational and social standards of the nation through the medium of the public press, thereby crystallizing the sentiments and patriotism of the people, and

WHEREAS, the War Department has motor trucks available and is authorized by Act of Congress to turn over to the Post Office Department as many of these as are requisitioned, and thousands of competent Army truck operators

now being honorably discharged from the service are immediately available for employment, therefore

BE IT RESOLVED, that the motor truck manufacturers in convention assembled strongly approve the plans of the Post Office Department for extension of rural motor truck postal service and urgently recommend that the fullest possible advantage be taken of the present favorable opportunity to expand this important improvement in the postal service;

RESOLVED, that the Congress be petitioned to grant the maximum possible appropriation for the development and maintenance of this service during the next fiscal year, and be it further

RESOLVED, that the National Automobile Chamber of Commerce declares its readiness to appoint a committee of highway traffic engineers to volunteer its co-operation and assistance to the Postmaster General and Fourth Assistant Postmaster General in securing the utmost efficiency and economy in the motor truck postal service.

Opportunities for Export

In his paper, "What Are the Opportunities for Motor Truck Sales in Europe?" David Beecroft, Directing Editor, *Automotive Industries*, described conditions among truck manufacturers in Europe. He said that thousands of trucks used in France were being brought back to England, where they were being rebuilt for resale, and that there were 70,000 of these units. He also pointed out that there were about a dozen influential truck manufacturers represented in Parliament, and that it was but natural to assume that they would seek to protect their industry; in fact, it was very probable that these high protectionists would place restrictions on imports, as well as a duty, which would probably be as high as 35 per cent.

He also said that the opinion prevailed abroad that the price of the American heavier capacity trucks was too high, but that there was a field for the 1000-lb. to 1-ton truck of the delivery type. He also stated that there was every need for American truck makers to get together on standardization on exported trucks, that the European makers were giving this matter serious attention. He stated that there would be no competition, at least for a year, with the American passenger car. Mr. Beecroft pointed out that France is using large numbers of trailers, that they were exceedingly popular, and that they proposed to develop the mounting of guns on chassis. This, he said, should be done in this country.

Statistics of the Motor Truck Industry

Compiled by the N. A. C. C.

Truck Production in United States by Years

Source of Figures	Year	Number	Value Wholesale
United States Census	1914	25,375	$45,098,464
N. A. C. C. Estimate	1915	74,000	125,800,000
N. A. C. C. Estimate	1916	90,000	157,500,000
Automotive Products Section, War Industries Board	1917	128,157	220,982,668
Automotive Products Section, War Industries Board	1918	227,250	434,168,992
Automotive Products Section, War Industries Board (proposed)	1919	327,930	.....

Classification of Production in 1918 by Capacity

Capacity	Number	Per Cent. of Total	Capacity	Number	Per Cent. of Total
1 ton and less	110,417	47.9	5 tons	5,079	2.4
1½ to 2½ tons	79,070	37.6	More than 5 tons	406	0.2
3 to 4 tons	25,128	11.9			

Distribution of Proposed Production for 1919

(From reports by manufacturers to War Industries Board)

Capacity	Number	Per Cent.	Capacity	Number	Per Cent.	Capacity	Number	Per Cent.
½ ton	9,300	2.8	2 tons	49,947	15.2	4 tons	1,149	0.3
¾ ton	30,043	9.	2½ tons	10,063	3.5	5 tons	16,992	5.1
1 ton	138,736	42.	3 tons	6,155	1.8	5½ tons	1,000	0.3
1½ tons	43,308	13.2	3½ tons	19,212	5.9	6 tons	1,069	0.3
						7 tons	945	0.3

Production of Military and Civilian Trucks

Trucks produced for Civilian use in 1917	109,865	Trucks produced for Civilian use in 1918	164,264
Trucks produced for Military use in 1917	18,292	Trucks produced for Military use in 1918	62,986

Record of United States Government Trucks as of January 1, 1919

Total ordered	204,760	Balance due	28,679
Total delivered	*98,000	Shipped overseas	54,343
Total cancelled	78,081		

*Includes foreign purchases.

Exports of Motor Trucks From the United States

(Exclusive of shipments to American Expeditionary Forces)

Principal Countries	1917 No.	1917 Value	1918 No.	1918 Value
France	2,683	$8,466,271	3,356	$12,920,029
United Kingdom	7,574	20,111,759	2,264	7,671,230
Canada	822	1,075,750	1,506	2,035,464
Russia in Europe	686	2,294,174	2	5,454
Russia in Asia	193	622,883	15	18,200
Other Countries	2,389	3,793,936	3,075	4,164,575
Total	14,347	$36,364,773	10,308	$26,814,953

Miscellaneous Data

Companies actively engaged in truck manufacture in the United States	154
Motor trucks in use in the United States (estimated)	480,000
Transportation service rendered by motor trucks in United States last year (estimated ton-miles)	6,000,000,000
Cost of above service at 18 cents per ton-mile	$1,080,000,000
Cost of same service by horse-drawn vehicle at 25 cents per ton-mile	$1,500,000,000
Estimated annual saving by use of Motor Truck	$ 420,000,000
Cost of hauling corn and wheat from farms by truck (U. S. Bureau of Crop Estimates report) per ton-mile	15 cents
Cost of same haulage by wagon (Bureau of Crop Estimates report) per ton-mile	30-33 cents

Propose Changes in Warranty

In his address dealing with present standard service, repair parts, policies and guarantee, E. J. Herbig, sales manager of the Service Motor Truck Co., Wabash, Ind., made a number of pertinent suggestions. He suggested among other things to divorce the truck from the passenger car, insofar as the use of the word vehicle is concerned, substituting that of truck. In the sixth paragraph of the standard warranty, that dealing with furnishing repair parts, etc., he said that some dealers fail to give the owner the benefit of same, that there were delays, etc. He suggested that the dealer make the decision, if practical.

Another suggested change was that relating to where the dealer is expected to give the same inspection and adjustment service on the cars made by the company, without regard to the territory in which they were bought. In the opinion of the speaker, this did not always operate fairly, and he thought the manufacturer might maintain a corps of travelling expert mechanics to keep these trucks from becoming idle. The speaker also suggested that a dealer stock parts according to what the manufacturer deems essential to keep the trucks in his territory in operation, and the permanent method of inventory was recommended.

Discounts to Garagemen

"Discounts should be allowed to a dealer only when he has a service station and gives real service," said the speaker, who said that garagemen should have a commission when they give efficient service to a truck user. In the matter of returning parts to the factory, Mr. Herbig suggested that the tag give the name of the owner of truck, serial number and date of purchase, so as to supply the maker with the essential data. Mr. Herbig also suggested that the S. A. E. standardize names for parts.

Credit to be given for obsolete parts if returned within one year, and the dealer to be credited with the price he paid for parts, less transportation charges and an overhead cost of about 10 per cent., was another plan outlined. The matter of responsibility for parts was discussed, and the speaker said there was room for improvement.

Overloading and Speeding

Mr. Herbig advocated making null and void the warranty when the governor was tampered with by the unscrupulous driver, and the use of a sealed governor, rather than attempting to solve the overloading and speeding evil.

In closing, he suggested the elimination of the warranty, which, he said, virtually led the purchaser to expect trouble. Owing to the late hour, the discussion following was brief, but Mr. Herbig's remarks led to chair announcing that the appointment of a committee to take action on the suggestions would be deferred until chairman Windsor T. White was able to make the appointments.

To Fight Drastic Motor Truck Legislation

PHILADELPHIA, Feb. 13.—Until "legislative action" in Harrisburg, Pa., is completed, just so long will the schedule outlined for four years of highway improvement be held up. And all this comes about by a few drastic bills, which are to be introduced in the legislature, and which, if passed without amendment, would do untold harm to the motor truck trade in the State of Pennsylvania, and practically force individual truck owners out of business. The railroad and trolley lobbies want license fees running as high as $400, which would place transportation on the state highways, where it is now, "in the hands of the big fellows." Only railroads and trolley lines could pay these fees and survive.

What is known as the "Dietrich Bill" contains a clause which limits the length of the truck to 20 ft. The passing of this bill would certainly eliminate from the roads all the five-ton trucks, also a great number of smaller sized vehicles, all the way down the line to the long wheelbase two-ton sizes.

The "Buckman Bill," which was introduced at the last session of the legislature by Senator Buckman, of Bucks county, is the high license bill referred to above, and which was defeated. A similar bill by Buckman is now pending.

These bills, and many others of a radical nature, will be fought by the Motor Truck Association of Philadelphia, the Philadelphia Automobile Trade Association, etc. At the monthly meeting of the Philadelphia Motor Truck Association, on February 19, at the Hotel Adelphia, these bills will be discussed by James L. Adams, attorney, Pittsburgh; T. R. Dahl, attorney, Cleveland, and Robert P. Hooper, president of the Pennsylvania Motor Federation.

Bollstrom Engineering Co. has been organized at St. Louis, Mo., to manufacture a four-wheel drive truck. The company has purchased a 40-acre factory site and will start construction on a new plant in the near future.

The Dayton Steel Wheel for Commercial Cars

The Dayton Steel Foundry Co., of Dayton, Ohio, is manufacturing the Dayton steel wheel, a one piece wheel of electric furnace steel, which is designed to carry the increased weight of the present-day load and stand up under



The Dayton Steel Wheel
The odd number of spokes, and sweeping-curve construction are designed to dispel shocks

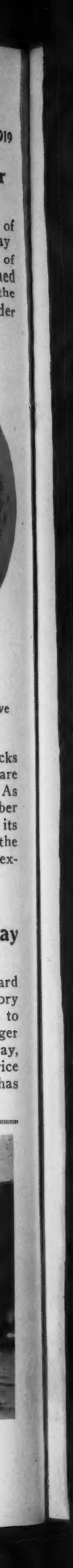
the strain at the speeds at which trucks now travel. The spokes and rim are hollow and of uniform thickness. As will be noted, there is an odd number of spokes and a sweeping curve in its construction, the maker stating that the purpose of this feature is to dispel excessive road shocks.

M. A. M. A. Appoints Heminway Assistant Manager

WASHINGTON, Jan. 20.—The board of directors of the Motor and Accessory Manufacturers' Association has voted to establish a position of assistant manager of the association. M. L. Heminway, formerly secretary of the war service committee, of the rubber industry, has been elected to that position.



Trucks for the Chicago Show Were Hauled Into the Buildings by an Electric Industrial Truck



Buyers' Information Commercial Car Review

(Western Section)

On the following pages is given a complete review of the Commercial Car Models that will be manufactured for the coming season by Eastern American Manufacturers.

See Complete Indexes on Pages 56 and 57.

THIS is the second or Western Section of the Review and contains a review of trucks made in the following States: California, Illinois, Indiana, Iowa, Louisiana, Michigan, Minnesota, Missouri, Nebraska, Oregon, Texas, Washington and Wisconsin.

The first or Eastern Section of the Review was published in the January issue, and included trucks manufactured in the following States: Connecticut, Delaware, District of Columbia, Georgia, Kentucky, Maryland, Massachusetts, New York, New Hampshire, New Jersey, North Carolina, Ohio, Pennsylvania and West Virginia.

The data given in this Review was supplied direct by the makers.

Key to Abbreviations will be found on the leaf attached to this page; when this is opened out it will be found very convenient for references. Indexes will be found on pages 56 and 57.

Criticisms on this Buyers' Information Review are invited.

Horse Power Formula.—All horse powers are calculated by the N.A.C.C. formula: H.P. $=\frac{D^2N}{2.5}$, where D is the bore in inches and N is the number of cylinders.

The other side of this leaf contains the key to the abbreviations used in the

Buyers' Information Commercial Car Review

While consulting the Review turn this leaf out so that it extends beyond the book; it will then be found very convenient for immediate reference.

Indexes arranged alphabetically and according to price are on pages 56 and 57.

KEY OF ABBREVIATIONS

Used in the Specifications of Cars Included in the Annual Commercial Car Review

LAST HALF OF REVIEW. FIRST HALF WAS IN THE JANUARY ISSUE

Own—Own Make
Opt—Optional

Engine: Cont—Continental
Her—Hercules
H-Sp—Herschell-Spillman
Lite—Light Mfg. & Foundry Co.
Lyco—Lycoming
Ster—Sterling
Wau—Waukesha
Wis—Wisconsin

Valve Location: L—ELL-Head
T—TEE-Head
O—Overhead

How Cooled: C—Centrifugal Pump
G—Gear Pump
P—Water Pump
T—Thermo-Syphon
W—Water

Radiator (Make or Type): Bus—Bush
Can—Candler
EM—English-Mersick
Eur—Eureka
Fed—Fedders
Flex—Flexo
GO—G. & O.
Har—Harrison
Hovn—Hooven
Idl—Ideal
JMS—Jamestown
Lng—Long
McC—McCord
May—Mayo
MR—Marlin-Rockwell
Per—Perfex
R-T—Rome-Turney
Stan—Standard

C—Cellular
T—Tubular
H—Honeycomb

Tires: (Solid unless otherwise stated).
*—Pneumatic
D—Dual
S—Steel
T—Triple

Lubrication: C—Centrifugal Pump
Fo—Force-Feed
FG—Force and Gravity
FS—Force and Splash
Sp—Splash Feed
P—Water Pump

Carburetor: B&B—Ball & Ball
Cart—Carter
Ens—Ensign
Flch—Flechter
Holl—Holley
John—Johnson
Mar—Marvel
Mas—Master
Mill—Miller
Strm—Stromberg
Shk—Shakespeare
Sheb—Schebler
Spc—Special
Till—Tillotson
Zen—Zenith

Ignition System: (Make or Type)
At-Kt—Atwater Kent
Au-L—Auto-Lite
Bat—Battery
Bosh—Bosch
Berl—Berling
Conn—Connecticut
Delc—Delco
Dix—Dixie
Eism—Eisemann
King—Kingston
Mag—Magneto
NE—North East
POL—Prest-O-Lite
Sim—Simms
Spld—Splitdorf

Engine Starter: Au-L—Auto Lite
Bosh—Bosch
Bij—Bijur
Dyn—Dyneto
G&D—Gray & Davis
L-N—Leece-Neville
West—Westinghouse

Clutch: B—Borg & Beck
C—Cone
D—Disc
F—Fuller
G—Detroit Gear & Machine
H—Hartford
L—Brown-Lipe
M—Merchant & Evans (Hele-Shaw)
U—Muncie
W—Warner
O—Own

Transmission: B-Lipe—Brown-Lipe
Cott—Cotta
Covt—Covert
Det—Detroit
Durst—Durston
Full—Fuller
G-Lee—Grant-Lees
I-CI—Individual Clutch
MM—Mechanics Machine Co.
Munc—Muncie
Plan—Planetary
Prog—Progressive
Rock—Rockford
Selec—Selective
Warn—Warner

Drive: B—Bevel Gear
C—Chain
Ct—Concentric Spur
F—Friction
I—Internal Gear
O—Own
R—Roller
S—Shaft
SB—Spiral Bevel
Sp—Spur
W—Worm

Universal: Arv—Arvac
Bld—Blood Brothers
Hart—Hartford
K-B—Kinsler-Bennett
M—Merchant & Evans
Spic—Spicer
Ther—Thermoid
UM—Universal Machine Co.
UP—Universal Products Co.

Rear Axle: Cel—Celfor
Cl—Clark
Emp—Empire
Rock—Rockford
Russ—Russel
Sals—Salisbury
Shel—Sheldon
Timk—Timken
Torb—Torbensen
W-M—Weston-Mott

Flot—Full Floating
½-Fl—Semi-Floating
¾-Fl—¾ Floating
⅞-Fl—⅞ Floating

Spring Suspension:
CC—Cleveland-Canton
Det—Detroit
IC—Iron City
Kal—Kalamazoo
Mar—Maremont
Math—Mather
Nat—National
Row—Rowland
Per—Perfection
Shel—Sheldon
SP—Spring Perch
Stan—Standard
Ster—Sterling
Tut—Tuthill
US—United States

Cant—Cantilever
Elip—Full Elliptic
S-El—Semi-Elliptic
¾-El—¾-Elliptic
S&C—Semi-Elliptic and Cantilever
S&¾—Semi-Elliptic and ¾-Elliptic

Steering Gear:
CAS—C. A. S. Products Co.
Dit—Ditwiler
Gem—Gemmer
Jac—Jacox
Lav—Lavine
W—Worm
Warn—Warner
Wohl—Wohlrab

Governor: C—Centrifugal
Cont—Continental
Del—Delaney
Dup—Duplex
McC—McCanna
Mer—Merrill
Mon—Monarch
Pier—Pierce
Rug—Ruggles
Simp—Simplex
Wau—Waukesha

EXTRA ABBREVIATIONS USED ON ELECTRICS

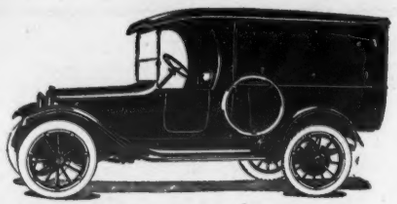
Battery: Exid—Exide
Edis—Edison
Phil—Philadelphia

Motor: Gn-El—General Electric Co.
West—Westinghouse

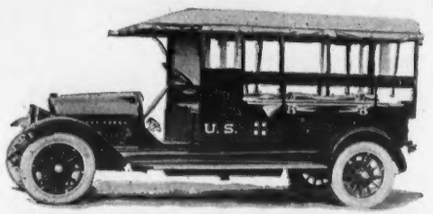
Controller: Gn-El—General Electric Co.
West—Westinghouse

Indexes arranged alphabetically and according to price are on pages 56 and 57

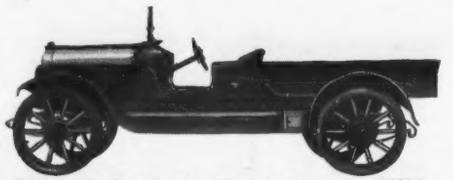




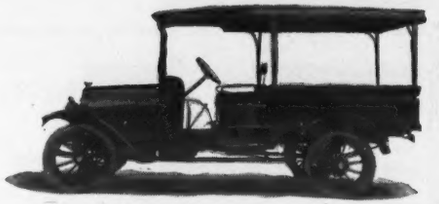
Dodge 1000-lb. Model, Chassis, $835.
Dodge Bros., Detroit, Mich.



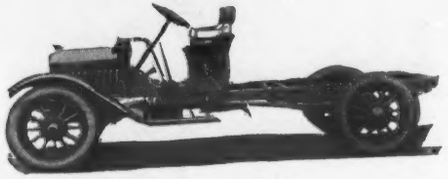
Velie 24, 1000-lb. Model, Chassis, $2000.
Velie Motor Corp., Moline, Ill.



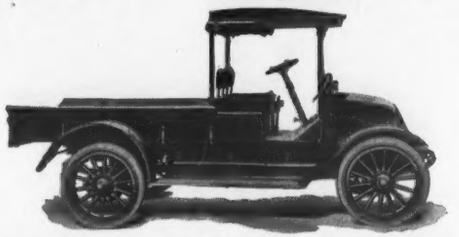
Dispatch G, ¾-ton Model, Chassis, $1200.
Dispatch Motor Car Co., Minneapolis, Minn.



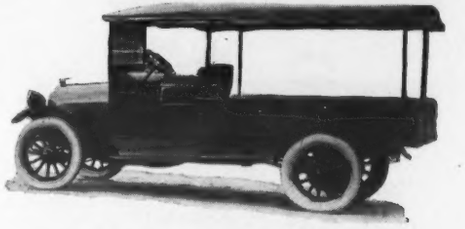
Famous 10, 1500-lb. Model, Chassis, $800.
Famous Trucks, Inc., St. Joseph, Mich.



G. M. C. 15, 1500-lb. Model, Chassis, $1775.
General Motors Truck Co., Pontiac, Mich.



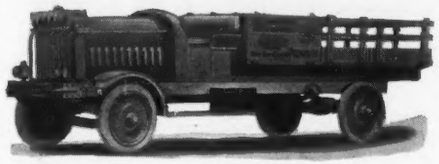
International H, 1500-lb. Model, Chassis, $1650.
International Harvester Corp., Chicago, Ill.



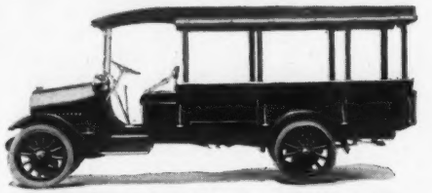
Reo F, ¾-ton Model, Chassis, $1350.
Reo Motor Car Co., Lansing, Mich.



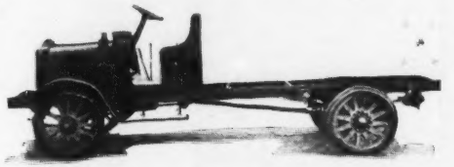
Acme B, 1-ton Model, Chassis, $1950.
Acme Motor Truck Co., Cadillac, Mich.



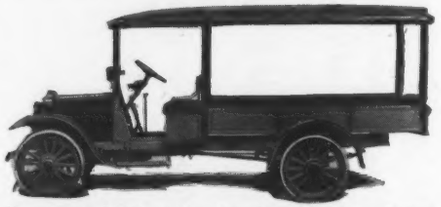
All-American AA, 1-ton Chassis, $1295.
All-American Truck Co., Chicago, Ill.



Chevrolet, 1-ton Model, Chassis, $1325.
Chevrolet Motor Co., New York City.



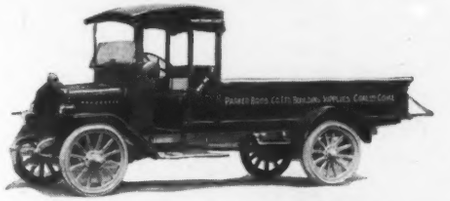
Columbia, 1-ton Model, Chassis, $1750.
Columbia Motor Truck Co., Pontiac, Mich.



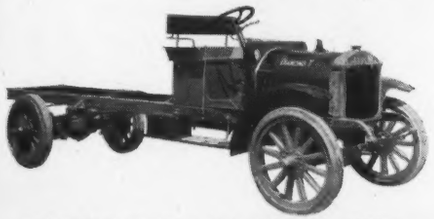
Commerce EH, 1-ton Model, Chassis, $1630.
Commerce Motor Car Co., Detroit, Mich.



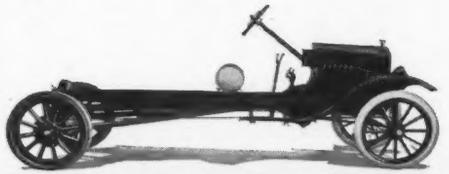
Dart E, 1-ton Model, Chassis, $2100.
Dart Truck & Tractor Corp., Waterloo, Ia.



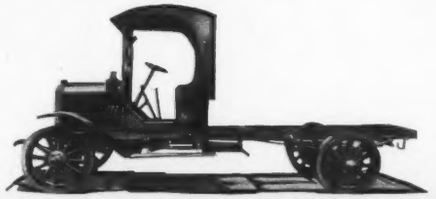
Denby 1-ton Model, Chassis, $1650.
Denby Motor Truck Co., Detroit, Mich.



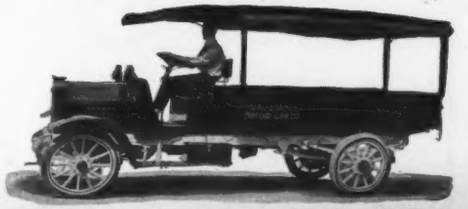
Diamond T, J5-1-ton, Chassis, $2125.
Diamond T Motor Car Co., Chicago, Ill.



Ford T, 1-ton Model, Chassis, $550.
Ford Motor Co., Detroit, Mich.

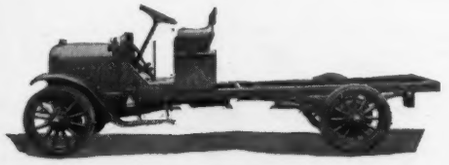


Giant 15, 1-ton Chassis, $1850.
Chicago Pneumatic Tool Co., Chicago, Ill.

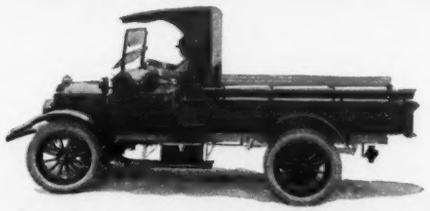


Federal S, 1-ton Model, Chassis, $1900.
Federal Motor Truck Co., Alma, Mich.

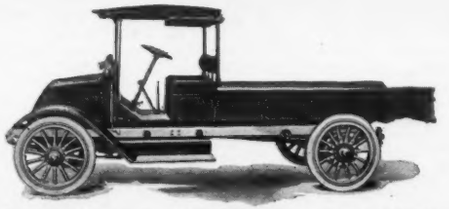
LAST HALF OF REVIEW. FIRST HALF WAS IN THE JANUARY ISSUE



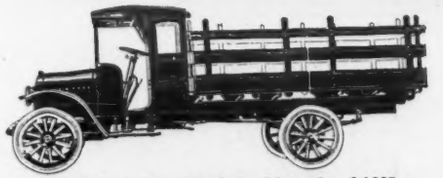
G. M. C. 21, 1-ton Model, Chassis, $2025.
General Motors Truck Co., Pontiac, Mich.



Higrade A18, 1-ton Model, Chassis, $2100.
Higrade Motors Co., Harbor Springs, Mich.



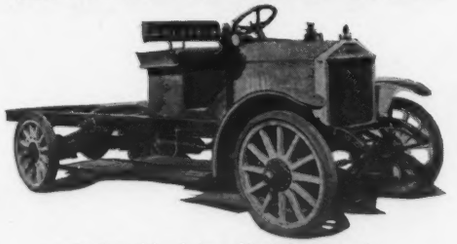
International F, 1-ton Model, Chassis, $1850.
International Harvester Co., Chicago, Ill.



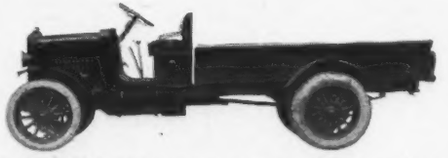
Maxwell 1-ton Model, Chassis, $1085.
Maxwell Motor Co., Inc., Detroit, Mich.



Napoleon 9, 1-ton, Chassis, $1285.
Traverse City Motor Car Co., Traverse City, Mich.



Ogden 1A, 1-ton Model, Chassis.
Ogden Motor & Supply Co., Chicago, Ill.



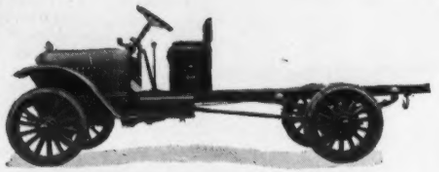
Nash Model 2018, 1-ton Model, Chassis, $1650.
Nash Motors Co., Kenosha, Wis.



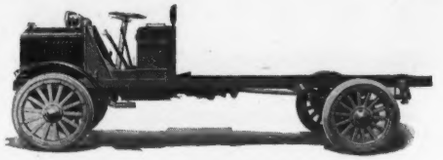
Menominee 1-ton Hurryton Model, Chassis, $1890
Menominee Motor Truck Co., Menominee, Mich.

½, ¾, and 1 Ton Gasoline Commercial Cars

Model a. c.	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr. Cent of Weight on Rear Wheels
1000 POUNDS																												
Dodge	1820	1085	Own	4	3⅞x4½	24	3	1/16	L	C	T	FS	Stew	NE	NE	D	Selec	3	Own	SB	Flot	114	Det	33x4	33x4	Own	....	50
Velie B.	2750	2000	Cont	6	3½x5¼	29.6	3	¼	L	C	H	FS	Rayf	Will	Remy	B	Selec	3	Spic	B	Timk	154	Math	35x5*	35x5*	Gem	....	50
1500 POUNDS																												
Dispatch G	2200	1200	Wis	4	3¾x4	22.5	3	1/16	L	T	C	Fo	Rayf	Bosh	USL	O	Own	4	Bld	Int	Dead	120	Tut	.....*	.....*	W	....	50
Famous 10	2100	800	Lyco	4	3¼x5	19.6	.	..	L	T	H	Fo	Cart	Opt	....	C	Rock	3	Acme	B	Rock	110	Own	....*	....*	Ross	....	....
G. M. C. 16	2760	1775	Cont	4	3¾x5	22.5	3	1/16	L	C	McC	FS	Mar	Eism	....	D	Selec	3	UM	B	WM	132	Det	35x5*	35x5*	Jac	Mon	67
International H	2800	1550	Own	4	3½x5¼	19.6	3	1/16	L	C	T	FS	Holl	Bosh	Own	D	Selec	3	Own	I	Own	115	....	36x3	36x3½	Ross	Own	75
Reo F	2525	1350	Own	4	4⅛x4½	27.2	3	1/16	L	C	Own	Sp	John	Remy	Remy	O	Own	3	Own	B	Own	128	Penn	34x4½*	34x4½*	Own	....	62½
1-TON																												
Acme B	3200	1950	Cont	4	3¾x5	22.5	3	¼	L	T	T	FS	Rayf	Eism	G&D	B	Cott	3	Bld	W	Timk	130	DSP	34x3½	34x5	Ross	Dup	80
All American A	2800	1295	H-Sp	4	3¾x5	16.9	3	1/16	L	T	Stan	FS	Strm	Dix	....	B	GLee	3	UP	I	Torb	130	Det	33x4*	32x4	Ross	....	75
Chevrolet T	2840	1325	Own	4	3 1/16x5¼	22.5	3	1/16	O	C	T	FS	Zen	Remy	Au-L	C	Warn	3	Arv	W	½Fl	125	Hess	31x4	31x4	Warn	Mon	....
Columbia	....	1750	Cont	4	3¾x5	22.5	3	1/16	L	P	T	FS	Shak	....	....	B	Covt	.	Spic	..	Russ	...	....	32x3	32x4	....	Pier	....
Commerce EH	2900	1500	Cont	4	3¾x5	22.5	3	1/16	L	T	Lng	FS	Zen	Eism	Bij	C	Selec	3	Spic	I	Torb	126	Det	34x3	34x4	Jac	....	80
Dart E	3200	2100	Buda	4	3½x5¼	19.6	4	¼	L	T	T	Fo	Zen	Eism	....	F	Full	3	Arv	W	Timk	130	Per	34x3½	34x5	Ross	Simp	80
Denby 12	2770	1650	Cont	4	3½x5	19.6	3	1/16	L	T	Lng	Sp	Strm	Eism	....	D	Selec	3	UP	I	Russ	124	Det	34x3	34x4	Ross	Mon	72
Dearborn A	2100	975	DBS	4	3¾x4¼	22.5	3	..	L	T	H	Sp	Strm	Dix	....	GB	GLee	3	Arv	Ch	CC	125	C-C	30x3½*	32x3½	Dit	....	90
Diamond T-J5	3050	2125	Cont	4	3½x5	19.6	3	1/16	L	T	T	FS	Strm	Bosh	....	L	B-Li	3	Spic	W	Timk	126	Math	36x3	36x4	Gem	Pier	....
Federal S	3900	1900	Cont	4	3¾x5⅛	22.5	4	1/16	L	C	T	FS	Zen	Eism	....	B	Own	3	Spic	W	Timk	132	Math	34x3	34x4	Gem	Mon	75
Ford T	1450	550	Own	4	3¾x4	22.5	3	¼	L	T	T	Sp	Holl	Mag	....	D	Plan	2	....	W	½Fl	124	....	30x3*	32x3½	....	....	....
Giant	2950	1850	Cont	4	3½x5	19.6	3	1/16	L	T	Idl	FS	Sheb	Eism	....	W	Warn	3	Spic	W	Timk	138	Math	34x3½	34x5	Jac	....	94
G. M. C. 21	3794	2025	Cont	4	3¾x5	22.5	3	1/16	L	C	McC	FS	Mar	Eism	....	D	Selec	3	UM	W	Timk	136	Det	34x3½	34x5	Lav	Mon	69
Higrade A18	2900	2100	Cont	4	3½x5	19.6	3	1/16	L	T	C	Per	FS	Zen	Sim	L-N	F	Full	3	Bld	W	Shel	115	Per	35x5	35x5	Lav	Dup	66
International F	3000	1850	Own	4	3½x5¼	19.6	3	1/16	L	C	V	FS	Holl	Bosh	Own	D	Selec	3	Own	I	Own	128	....	36x3½	36x4	Ross	Own	75
Maxwell	2415	1085	Own	4	3⅝x4½	21.3	3	1/16	L	T	T	FS	John	At-K	....	C	Selec	3	Own	W	½Fl	124	Shel	32x3	32x4	Own	....	50
Menominee	....	1890	Cont	4	3¾x5	22.5	3	1/16	L	T	C	Sp	Strm	Eism	....	F	Selec	3	Own	W	Timk	130	Tut	34x3½	34x5	Gem	Pier	80
Napoleon	3400	1285	Gray	4	3½x5	19.6	3	¼	O	T	T	Sp	Strm	Conn	Au-L	F	Full	3	UP	..	Cl	132	....	32x3½	32x4	Gem	....	....
Nash 2018	3400	1650	Own	4	3¾x5½	22.5	3	¼	L	C	T	Fo	Strm	Conn	Au-L	B	Selec	3	Own	I	Celf	130	Stan	34x3	34x4	Jac	Dup	80
Ogden A1	3400	2095	Cont	4	3¾x5	22.5	3	1/16	L	T	T	FS	Rayf	Bosh	....	B	B-Li	3	Acme	W	Timk	136	Tut	36x3	36x4	Gem	Pier	79



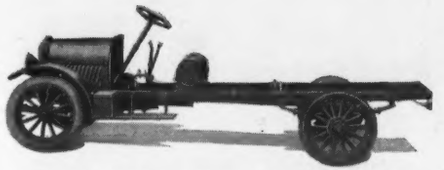
Republic 10, 1-ton Model, $1535.
Republic Motor Truck Co., Alma, Mich.



Wichita K, 1-ton Chassis, $2000.
Wichita Falls Motor Co., Wichita Falls, Tex.



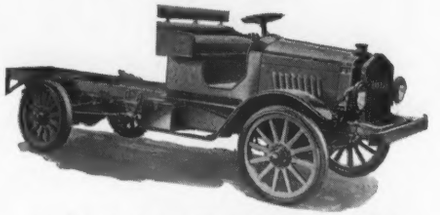
Packard 1E, 1-ton Model, Chassis, $2650.
Packard Motor Car Co., Detroit, Mich.



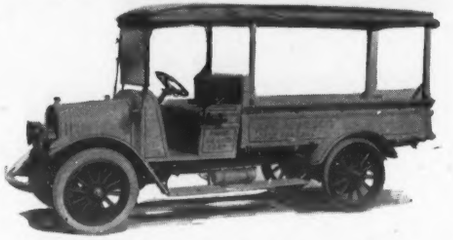
Comet, 1¼-ton Model, Chassis, $1575.
Comet Automobile Co., Decatur, Ill.



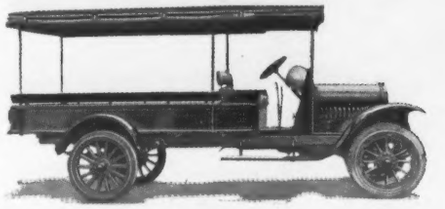
Signal F, 1-ton Model, Chassis, $2000.
Signal Motor Truck Co., Detroit, Mich.



Oneida A, 1-ton Model, Chassis, $2290.
Oneida Motor Truck Co., Green Bay, Wis.



Wilson F, 1-ton Model, Chassis, $1750.
J. C. Wilson Co., Detroit, Mich.



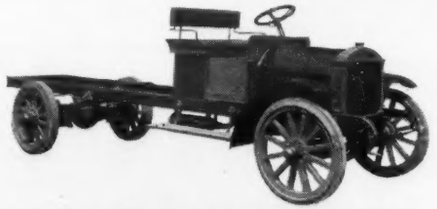
Collier, 1¼-ton Model, Chassis, $1402.50.
Collier Motor Truck Co., Bellevue, O.

1 Ton Gasoline Commercial Cars—Continued

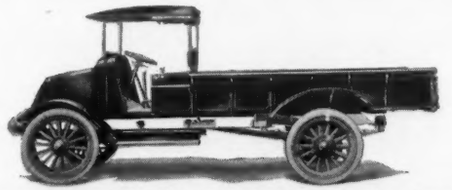
Model	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr.Cent of Weight on Rear Wheels
a. c.																												
Oneida A	4320	2290	Cont	4	3¾x5¼	22.5	3	1/4	L	C	T	FS	Strm	Bosh	Opt	M	Cott	3	Spic	W	Timk	130	Math	36x3½	36x5	Ross	Pier	82
Packard 1-E	4500	2650	Own	4	4x5½	25.6	3	1/4	L	C	C	Fo	Own	Dix	Bij	D	Selec	4	Spic	W	Float	126	SP	34x3½	34x4D	Own	Own	48
Panhard A	3400	1195	Gray	4	3½x5	19.6	3	1/4	O	T	Per	Sp	Strm	Au-L	Opt	F	Full	3	UP	I	Torb	130	Det	....	32x3½	Lav	....	80
Republic 10	2922	1485	Cont	4	3½x5	19.6	3	1/4	L	T	C	FS	Strm	Eism	....	D	Full	3	Arv	I	Torb	124	Opt	....	....	Jac	Rug	....
Sandow G	2850	...	Cont	4	3½x5	19.6	4	1/4	L	T	T	FS	Strm	Eism	....	D	Selec	3	UM	W	Shel	120	Det	34x3½	34x5	Ross	....	80
Service 220	3470	2100	Buda	4	3½x5½	19.6	3	1/4	L	T	T	FS	Strm	Eism	....	D	Selec	3	Arv	W	Timk	137	Math	34x3½	34x5	Ross	....	64
Signal F	4265	2000	Cont	4	4½x5¼	27.2	3	1/8	L	C	McC	FS	Strm	Eism	....	L	B-Li	4	Spic	W	Timk	144	Per	34x3½	36x5	Ross	Mon	80
Wichita K	....	2000	Own	4	3½x5	19.6	4	1/8	L	T	Per	Sp	Strm	Bosh	Own	C	Covt	3	Own	W	Shel	144	Det	36x3	36x4	Ross	....	....
Wilson F	3150	1750	Cont	4	3½x5	19.6	3	1/8	L	T	H	FS	Strm	Eism	....	D	Covt	3	Bld	W	Timk	124	Shel	35x5*	35x5*	Ross	Pier	75

1¼ Ton Gasoline Commercial Cars

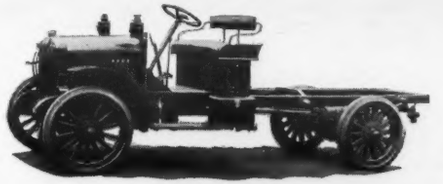
Model	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr.Cent of Weight on Rear Wheels
a. c.																												
Collier	3100	....	.....	4	3½x5	19.6	4	A	L	T	....	Fo	Zen	Conn	Au-L	B	Selec	3	....	..	¾Fl	128	....	32x4½*	32x4½*	W	....	....
Comet 1T2	3100	1575	Lyco	4	3½x5	19.6	4	A	L	T	Stan	FS	Cart	Au-L	Dyn	B	Munc	3	UP	W	Stan	130	Mar	34x4*	34x4	CAS	....	55



Diamond T, J4, 1½-ton Chassis, $2550.
Diamond T Motor Car Co., Chicago, Ill.



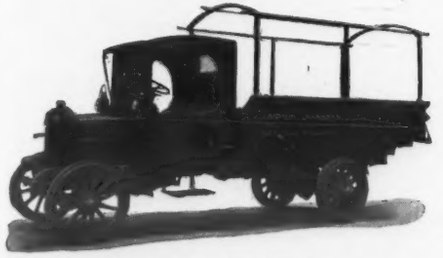
International K, 1½-ton Model, Chassis, $2200.
International Harvester Co., Chicago, Ill.



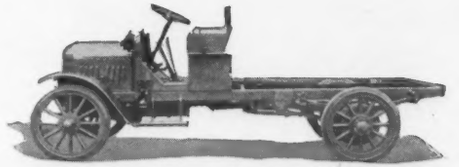
Dearborn F, 1½ ton Chassis, $1980.
Dearborn Motor Truck Co., Detroit, Mich.



Hawkeye 1½-ton Model, Chassis, $1900.
Hawkeye Truck Co., Sioux City, Ia.



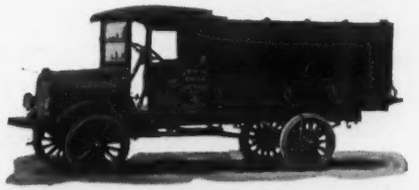
Acason 1½-ton Model.
Acason Motor Truck Co., Detroit, Mich.



G. M. C. 31, 1½-ton Model, Chassis, $2395.
General Motors Truck Co., Pontiac, Mich.



Giant, 1½-ton Model, Chassis, $2400.
Chicago Pneumatic Tool Co., Chicago, Ill.



Douglas TA, 1½-ton Model, Chassis, $2000.
Douglas Motors Corp., Omaha, Neb.



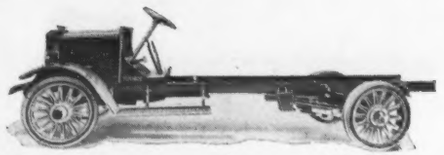
Federal T, 1½-ton Model, Chassis, $2350.
Federal Motor Truck Co., Alma, Mich.



Kissel 1½-ton General Utility, Chassis, $2073.50.
Kissel Motor Car Co., Hartford, Wis.

1½ Ton Gasoline Commercial Cars

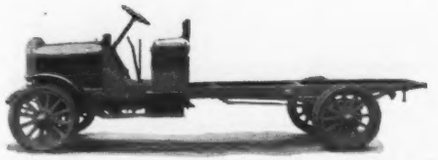
Model a. c.	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr. Cent of Weight on Rear Wheels
Acason B	....	....	Wau	4	3¾x5¼	22.5	2	¼	L	P	GO	Sp	Strm	Eism	....	B	Covt	3	Bld	W	Timk	150	Det	36x3½	36x5	Ross	Wau	....
Dearborn F	3280	1980	Cont	4	3½x5	19.6	3	¼	L	T	T	Sp	Strm	Bosh	....	F	Full	3	Arv	W	Stan	126	Tut	34x4	34x5	Lav	....	80
Diamond TJ4	3700	2550	Cont	4	3¾x5	22.5	3	⅛	L	T	T	FS	Strm	Bosh	....	L	B-Li	3	Spic	W	Timk	127	Math	36x3½	36x5	Gem	Pier	....
Douglas TA	3100	2000	Buda	4	4⅛x5½	27.2	3	⅛	L	C	May	FS	Sheb	Eism	....	B	GLee	3	Arv	I	Torb	127	Own	34x3½	34x5	Ross	Pier	65
Federal T	4250	2350	Cont	4	4⅛x5¼	27.2	3	⅛	L	C	T	Sp	Zen	Eism	....	B	Own	4	Spic	W	Timk	156	Math	36x3½	36x5	Gem	Mon	76
Giant 14	3600	2250	Cont	4	3½x5	19.6	3	⅛	L	T	C	FS	Sheb	Eism	....	W	Warn	3	Spic	W	Timk	138	Math	34x3½	34x5	Jac	....	94
G. M. C. 31A	4110	2395	Cont	4	3¾x5	22.5	3	⅛	L	C	McC	FS	Mar	Eism	....	D	Selec	4	UM	W	Timk	130	Det	36x3½	36x5	Lav	Mon	74
G. M. C. 31B	4150	2395	Cont	4	3¾x5	22.5	3	⅛	L	C	McC	FS	Mar	Eism	....	D	Selec	4	UM	W	Timk	144	Det	36x3½	36x5	Lav	Mon	74
Hawkeye K	3400	1900	Buda	4	3¾x5½	22.5	3	⅛	L	C	C	FS	Zen	Eism	....	F	Full	3	Hart	I	Cl	148	Det	34x3½	34x5	Gem	Simp	70
International K	3400	2200	Own	4	3½x5¼	19.6	3	⅛	L	C	T	FS	Holl	Bosh	Own	D	Selec	3	Own	I	Own	128	....	36x3½	36x5	Ross	Own	75
Kissel	3500	2073	Own	4	3⅞x5½	24.1	3	⅛	L	C	Fed	Sp	Strm	Eism	....	W	Warn	3	Spic	W	Shel	152	Math	34x3½	34x5	Jac	Pier	80



Manly 30, 1½-ton Model, Chassis, $2050.
O'Connel-Manly Truck Co., Waukegan, Ill.



Lane G, 1½-ton Model, Chassis, $2250.
Lane Motor Truck Co., Kalamazoo, Mich.



Master Junior, 1½-ton Chassis, $1990.
Master Trucks, Inc., Chicago, Ill.



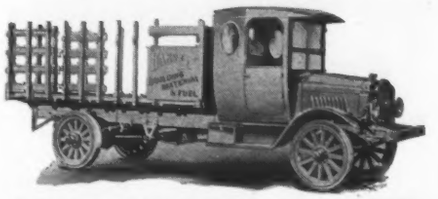
Velie 25B, 1½-ton Model, Chassis, $2950.
Velie Motors Corporation, Moline, Ill.



Nelson and Le Moon, 1½-ton Chassis, $2425.
Nelson & Le Moon, Chicago, Ill.



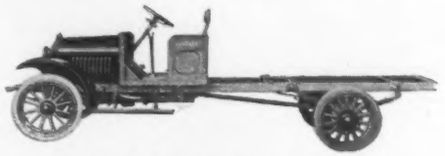
Old Reliable WA, 1½-ton Model, Chassis, $2350.
Old Reliable Motor Truck Co., Chicago, Ill.



Oneida B, 1½-ton Model, Chassis, $2650.
Oneida Motor Truck Co., Green Bay, Wis.



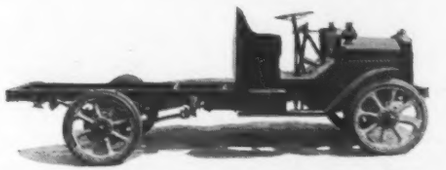
O. K., 1½-ton Model, Chassis, $2250.
Oklahoma Auto Mfg. Co., North Muskogee, Okla.



Panhard 1½-ton Chassis, $1395.
Panhard Motors Co., Grand Haven, Mich.



Patriot 1½-ton Model.
Hebb Motors Co., Lincoln, Neb.



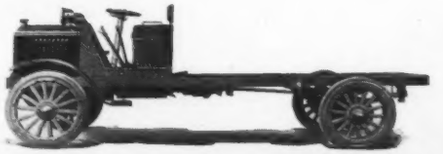
Moreland 17B, 1½-ton Model, Chassis, $2650.
Moreland Motor Truck Co., Los Angeles, Cal.



Signal H, 1½-ton Model, Chassis, $2700.
Signal Motor Truck Co., Detroit, Mich.



Triangle A, 1½-ton Model, Chassis, $2285.
Triangle Motor Truck Co., St. Johns, Mich.



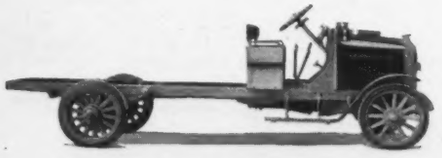
Wichita Falls L, 1½-ton Chassis, $2350.
Wichita Falls Motor Co., Wichita Falls, Tex.



Wolverine C, 1½-ton Chassis, $2180.
American Commercial Car Co., Detroit, Mich.

1½ Ton Gasoline Commercial Cars

Model	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr.Cent of Weight on Rear Wheels
g. c.																												
Lane G	3940	2250	Cont	4	3⅜x5⅛	22.5	3	¼	L	T	Hvn	FS	Strm	W	....	F	Full	3	Acme	W	Wis	144	Kal	34x4	34x5	Ross	Pier	....
Manly 30	....	2050	Wau	4	3¾x5¼	22.5	3	¼	L	C	T	FS	Zen	Eism	....	F	Selec	3	Ther	W	½Fl	144	Shel	36x4	36x5	Lav	Wau	....
Master Junior	3800	1990	Buda	4	4⅛x5½	27.2	3	5/16	L	C	H	FS	Mas	Eism	....	F	Full	3	Arv	W	Timk	142	Det	34x3½	34x5	Whol	McC	....
Moreland HB	4150	2650	Cont	4	4⅛x5¼	27.2	3	5/16	L	C	C	Fo	Mill	Dix	....	D	Selec	4	Ther	W	Timk	126	US	36x3½	36x5	Ross	....	....
Nelson & Le M'n F	3400	2425	Cont	4	3¾x5¼	22.5	3	5/16	L	C	T	Sp	Strm	Eism	West	L	B-Li	3	Own	W	Timk	...	Tut	36x3½	36x5	....	Mon	80
Oklahoma 1½T	3850	2250	Rut	4	4⅛x5½	27.2	3	5/16	L	C	T	FS	Cart	Dix	....	D	Selec	3	Hart	W	Stan	148	Tut	36x4	36x5	W	Pier	85
Old Reliable WA	4150	2350	Wis	4	4⅛x5¼	27.2	3	5/16	L	C	Lng	FS	Strm	Bosh	Opt	M	Cott	3	Spic	W	Timk	130	Math	36x3½	36x6	Ross	Pier	82
Oneida B	5280	2650	Cont	4	4x5½	25.6	3	¼	L	C	C	Fo	Own	Dix	Bij	D	Selec	4	Spic	W	Float	126	SP	34x3½	36x6	Ross	Mon	....
Packard 1½E	4600	3000	Own	4	3½x5	19.6	3	5/16	O	T	Per	Sp	Strm	Au-L	....	F	B-Li	3	Spic	W	Shel	138	Shel	34x3½	34x4D	Own	Own	48
Patriot 4T	3200	....	Cont	4	3¾x5	22.5	3	5/16	L	T	H	FS	Rayf	Bosh	....	D	Full	3	UP	I	Torb	130	D	32x3½	32x4	Lav	....	90
Republic 11X	3025	1775	Cont	4	4x5	25.6	3	¼	L	C	T	Fo	Strm	Bosh	....	D	Selec	3	Ther	I	Flot	135	....	34x3½	34x5	....	Pier	....
Panhard B	3600	1395	Gray	4	3¾x5	22.5	3	5/16	L	T	C	FS	Strm	Eism	....	D	Full	3	Arv	I	Torb	144	....	....	....	Jac	Rug	....
Sandow H 1½	3300	....	Cont	4	3½x5	19.6	4	5/16	L	T	T	FS	Strm	Eism	....	F	Full	3	K-B	W	Shel	138	Det	34x4	34x6	Ross	....	....
Signal H	4675	2700	Cont	4	4⅛x5¼	27.2	3	5/16	L	C	McC	FS	Strm	Eism	....	L	B-Li	4	Spic	W	Timk	144	Per	34x4	36x6	Ross	Mon	80
Triangle A	3750	2285	Wau	4	3¾x5¼	22.5	3	..	L	C	Per	Sp	Strm	Eism	....	F	Full	3	UP	I	Cel	144	Det	34x3½	36x4	Gem	Wau	60
Velie 25-B	4500	2950	Cont	4	4⅛x5¼	27.2	3	5/16	L	C	T	FS	Strm	Bosh	....	B	B-Li	4	Spic	W	Timk	135	Math	36x4	36x7	Gem	Pier	80
Wichita L	....	2350	Own	4	3½x5	19.6	4	..	L	T	Per	Sp	Strm	Bosh	....	C	Covt	3	Own	W	Shel	144	Det	36x3½	36x5	Ross	....	....
Wolverine C	3400	2180	Cont	4	3¾x5	22.5	.	..	L	T	Lng	FS	Flch	Opt	G&D	F	Selec	3	UP	I	Russ	140	Tut	34x3½	34x5	Gem	Mon	77



Acason 2-ton Model.
Acason Motor Truck Co., Detroit, Mich.



Available 2-ton Model, Chassis, $2950.
Available Truck Co., Chicago, Ill.



Acme A, 2-ton Model, $2750.
Acme Motor Truck Co., Cadillac, Mich.

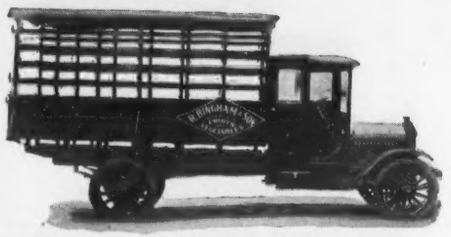


Columbia, Model E, 2-ton Chassis, $2350.
Columbia Motor T. & T. Co., Pontiac, Mich.

2 Ton Gasoline Commercial Cars

Model	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr.Cent of Weight on Rear Wheels
g. c.																												
Acme A	4450	2750	Cont	4	4⅛x5¼	27.2	3	¼	L	C	GO	FS	Rayf	Eism	....	B	Cott	3	Bld	W	Timk	148	Det	36x4	36x7	Ross	Dup	80
Acason H	4900	....	Wau	4	4¼x5¾	28.9	3	¼	L	C	GO	Sp	Strm	Eism	....	M	Munc	4	Bld	W	Timk	150	Det	36x4	36x7	Ross	Wau	....
Available 2	4500	2950	Cont	4	4⅛x5¼	27.2	3	5/16	L	C	T	Sp	Strm	Bosh	....	L	B-Li	3	Spic	W	Timk	144	Tut	36x4	36x6	Lav	Pier	70
Columbia E	4100	2350	Cont	4	4⅛x5¼	27.2	3	5/16	L	C	Lng	Fo	Shk	Dix	....	H	Covt	3	Spic	I	Russ	134	Per	36x4	36x6	Own	Pier	80

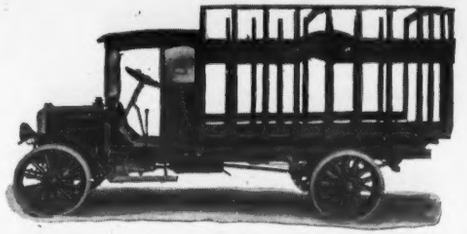
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Dart CC4, 2-ton Model, Chassis, $2750.
Dart Truck & Tractor Corp., Waterloo, Ia.



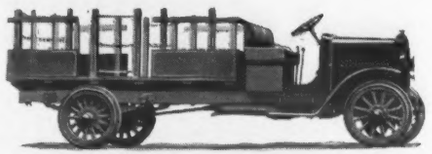
Diamond T, J3, 2-ton Chassis, $2925.
Diamond T Motor Car Co., Chicago, Ill.



Fargo P, 2-ton Model, Chassis, $2200.
Fargo Motor Car Co., Chicago, Ill.



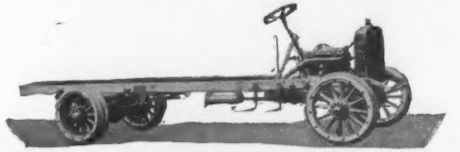
International G, 2-ton Model, Chassis, $2600.
International Harvester Corp., Chicago, Ill.



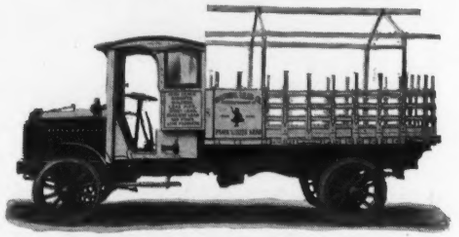
Nash 3018, 2-ton Stake, Chassis, $2175.
Nash Motors Co., Kenosha, Wis.



Denby, 2-ton Model, Chassis, $2350.
Denby Motor Truck Co., Detroit, Mich.



G. M. C. 41, 2-ton Model, Chassis, $2800.
General Motors Truck Co., Pontiac, Mich.



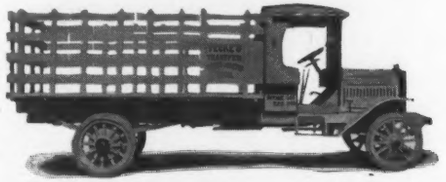
Dorris K4, 2-ton Model, Chassis, $2985.
Dorris Motor Car Co., St. Louis, Mo.



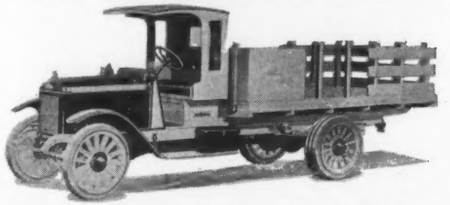
Muskegon 2-ton Model, Chassis, $2325.
Muskegon Engine Co., Muskegon, Mich.



Hawkeye 2-ton Model, Chassis, $2500.
Hawkeye Truck Co., Sioux City, Ia.



Lane H, 2-ton Model, Chassis, $2975.
Lane Motor Truck Co., Kalamazoo, Mich.



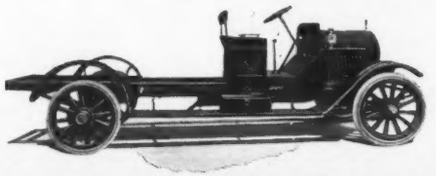
Jumbo B, 2-ton Model, Chassis, $2500.
Nelson Motor Truck Co., Saginaw, Mich.



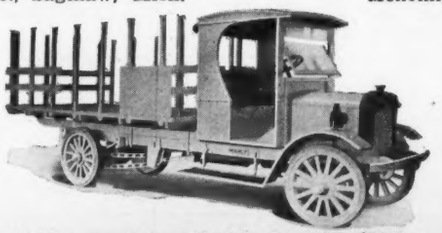
Menominee 2-ton Model.
Menominee Motor Truck Co., Menominee, Mich.



Federal U, 2-ton Model, Chassis, $2600.
Federal Motor Truck Co., Alma, Mich.



Giant 16, 2-ton Chassis, $2850.
Chicago Pneumatic Tool Co., Chicago, Ill.



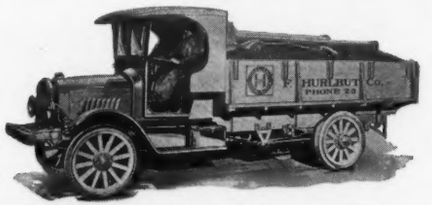
Manly 40, 2-ton Model, Chassis, $2350.
O'Connel-Manly Truck Co., Waukegan, Ill.



Nash Quad, 2-ton Stake, Chassis, $3250.
Nash Motors Co., Kenosha, Wis.



Oshkosh, 2-ton Model, Chassis, $3500.
Oshkosh Motor Truck Mfg. Co., Oshkosh, Wis.



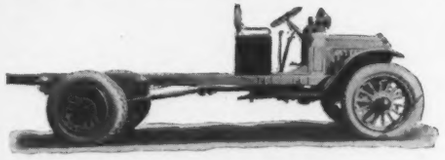
Oneida C, 2-ton Model, Chassis, $3000.
Oneida Motor Truck Co., Green Bay, Wis.



O. K., 2-ton Model, Chassis, $2450.
Oklahoma Auto Mfg. Co., North Muskogee, Okla.



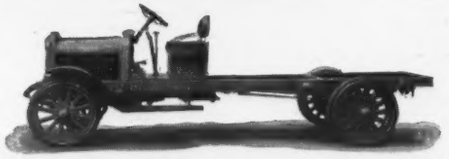
Northwestern W2, 2-ton Express, $3250.
Star Carriage Co., Seattle, Wash.



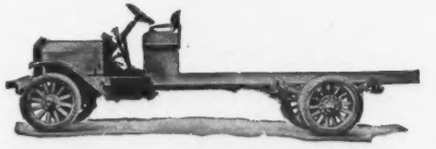
Republic 12, 2-ton Model.
Republic Motor Truck Co., Alma, Mich.



Packard 2E, 2-ton Model, Chassis, $3400.
Packard Motor Car Co., Detroit, Mich.



Master 2-ton Model, M, $2390; O, $2490; W, $2390; WL, $2690.
Master Trucks, Inc., Chicago, Ill.

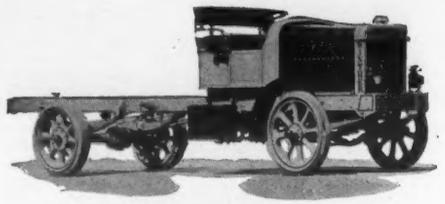


Parker 2-ton Model, Chassis, $3150.
Parker Motor Truck Co., Milwaukee, Wis.

2 Ton Gasoline Commercial Cars

Model	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr. Cent of Weight on Rear Wheels
a. c.																												
Dart CC4	4785	2950	Buda	4	4¼x5½	28.9	4	¼	L	C	Idl	Fo	Zen	Eism	....	F	Full	4	Spic	W	Timk	150	Per	36x4	36x7	Ross	Simp	80
Dearborn B	2400	1280	GBS	4	3⅞x4¼	....	3	..	L	T	H	Sp	Strm	Dix	....	GB	GLee	3	Arv	Ch	C-C	127	C-C	32x4*	34x5	Dit	....	90
Denby 13	3800	2350	Cont	4	3¾x5	22.5	3	1/16	L	T	Lng	Sp	Strm	Eism	....	G	Det	3	UP	I	Russ	144	Det	36x3½	36x6	Gem	Mon	75½
Diamond T-J3	4175	2925	Cont	4	4⅛x5¼	27.2	3	1/16	L	C	T	FS	Strm	Bosh	....	L	B-Li	3	Spic	W	Timk	154	Math	36x4	36x7	Gem	Pier	....
Dorris K4	5200	2985	Own	4	4¼x5½	28.9	3	¼	I	C	T	Fo	Strm	Bosh	West	D	Warn	4	Spic	W	Timk	Opt	Row	36x4	36x7	Ross	Own	70
Fageol	4600	3300	Wau	4	4½x5¾	28.9	3	¼	L	C	Flex	Sp	Zen	Dix	....	B	Selec	4	Spic	W	Timk	144	Math	34x4	36x7	Ross	Wau	80
Fargo P	3900	2200	Cont	4	3¾x5	22.5	3	1/16	L	T	Own	Sp	Rayf	Bosh	....	D	Full	3	Spic	I	Russ	144	Shel	36x4	36x6	Jac	....	70
Federal U	4800	2600	Cont	4	4⅛x5¼	27.2	3	1/16	L	C	T	Sp	Zen	Eism	....	B	Selec	4	Spic	W	Timk	156	Math	36x4	36x7	Gem	Mon	77
Giant 16	4500	2850	Cont	4	4⅛x5¼	27.2	3	1/16	L	C	C	FS	Shtb	Eism	....	W	Warn	3	Spic	W	Timk	144	Math	36x4	36x7	Jac	....	92
G. M. C. 41A	4525	2725	Cont	4	4⅛x5¼	27.2	3	1/16	L	C	McC	FS	Mar	Eism	....	D	Selec	4	UM	W	Timk	144	Det	36x4	36x4D	Lav	Mon	74
G. M. C. 41B	4580	2725	Cont	4	4⅛x5¼	27.2	3	1/16	L	C	McC	FS	Mar	Eism	....	D	Selec	4	UM	W	Timk	158	Det	36x4	36x4D	Lav	Mon	74
Hall	4000	2675	Cont	4	4⅛x5¼	27.2	.	..	L	P	H	FS	Zen	Bosh	....	L	B-Li	.	K-B	W	Timk	Opt	Det	36x4	36x4D	Gem	Dup	....
Hawkeye L	4000	2500	Buda	4	3¾x5½	22.5	3	1/16	L	C	C	FS	Zen	Eism	....	F	Full	4	Hart	I	Cl	148	Det	34x4	34x6	Gem	Simp	70
International G	4010	2600	Own	4	4x5	25.6	4	¼	O	T	....	FS	Ens	Own	Own	D	Own	3	Own	I	Own	135	....	36x4	36x6	Ross	Own	75
Jumbo B	4650	2500	Buda	4	4¼x5½	28.9	3	¼	L	C	GO	Fo	Zen	Eism	....	F	Full	3	Arv	I	Cl	144	Det	36x4	36x7	Jac	Dup	60
Kissel	4500	2832	Own	4	4¼x5½	28.9	3	1/16	L	C	May	Sp	Strm	Eism	....	W	Warn	4	Spic	W	Timk	168	Math	34x4	36x7	Lav	Pier	80
Lane H	5230	2975	Cont	6	3½x5¼	29.7	3	¼	L	P	Hon	FS	Strm	Eism	Dyn	B	Full	3	Acme	W	Timk	160	Kal	34x5	36x7	Ross	Pier	....
Manly	....	2350	Wau	4	3⅜x5¼	22.5	3	¼	L	C	T	Sp	Zen	Eism	....	D	Selec	3	I	W	½Fl	144	Shel	36x4	36x5	Lav	Wau	....
Master M	4300	2390	Buda	4	4¼x5½	28.9	3	¼	L	C	T	FS	Own	Eism	I	L	B-Li	4	Arv	I	Torb	144	Det	34x4	36x7	Whol	McC	....
Master O	4300	2490	Buda	4	4¼x5½	28.9	3	¼	L	C	T	FS	Own	Eism	I	L	B-Li	4	Arv	I	Torb	170	Det	34x4	36x7	Whol	McC	....
Master W	4300	2590	Buda	4	4¼x5½	28.9	3	¼	L	C	T	FS	Own	Eism	I	L	B-Li	4	Arv	W	Timk	144	Det	34x4	36x7	Whol	McC	....
Master WL	4300	2690	Buda	4	4¼x5½	28.9	3	¼	L	C	T	FS	Own	Eism	I	L	B-Li	4	Arv	W	Timk	170	Det	34x4	36x7	Whol	McC	....
Menominee D	....	2950	Cont	4	4½x5¼	27.2	3	1/16	L	C	T	FS	Strm	Eism	....	F	Selec	3	Spic	W	Timk	144	Tut	36x4	36x4D	Gem	Pier	80
Muskegon 4	4015	2325	Cont	4	4½x5¼	27.2	3	1/16	L	C	May	FS	Stew	Eism	....	F	Full	3	Hart	I	Torb	150	Per	36x4	36x6	Lav	Pier	75
Nash 3018	3850	2175	Own	4	3⅜x5¼	22.5	3	¼	L	C	T	Fo	Strm	Conn	Au-L	B	Selec	3	Own	I	Celf	144	Stan	34x4	34x6	Jac	Dup	80
Nash Quad 4017	6800	3250	Buda	4	4¼x5½	28.9	3	¼	L	C	T	Fo	Strm	Eism	Bij	B	I-Cl	4	Spic	F	Own	124	Math	36x5	36x5	Lav	Dup	55
Northwestern W2	4900	2950	Cont	4	4⅛x5¼	27.2	3	1/16	L	C	MR	Sp	Strm	Bosh	....	H	Selec	3	Bld	W	Shel	164	Shel	34x4	36x7	Ross	....	80
Ogden B1	3900	2695	Cont	4	4⅛x5¼	27.2	3	1/16	L	C	T	FS	Rayf	Bosh	....	B	Selec	4	Acme	W	Timk	160	Tut	36x4	36x7	Gem	Pier	70
Oklahoma	4000	2450	Rut	4	.....	....	3	1/16	L	C	T	FS	Cart	Dix	....	D	Selec	3	Hart	W	Stan	152	Tut	36x4	36x5	....	Pier	85
Oneida C	5440	3000	Cont	4	4½x5¼	27.2	3	1/16	L	C	Lng	FS	Strm	Bosh	Opt	M	Cott	3	Spic	W	Timk	144	Math	36x4	36x7	Ross	Pier	82½
Oshkosh 4	4000	3500	H-Sp	4	3¼x5	16.9	3	1/16	L	T	C	FS	Zen	Bat	....	L	B-Li	4	Acme	B	Flot	130	Tut	36x6*	36x6*	Ross	....	60
Packard 2-E	5100	3400	Own	4	4x5½	25.6	3	¼	L	C	C	Fo	Own	Dix	Bij	D	Selec	4	Spic	W	Flot	144	SP	34x4	34x6D	Own	Own	48
Paige 50-18	....	2950	Cont	4	4⅛x5¼	27.2	3	1/16	L	C	T	...	Strm	Bosh	....	D	Selec	3	....	W	Timk	150	....	36x4	36x7	....	Pier	....
Parker	4500	3150	Cont	6	3½x5¼	29.4	3	¼	L	C	T	Sp	Strm	Dix	West	L	Own	3	Spic	W	Own	150	Tut	34x4	36x3½D	Ross	Pier	75
Republic 12B	4150	....	Cont	4	4⅛x5¼	27.2	3	1/16	L	C	C	FS	Strm	Bosh	....	D	Full	3	Arv	I	Torb	144	Opt	Opt	Opt	Jac	Rug	....
Republic 12BA	4150	....	Cont	4	4⅛x5¼	27.2	3	1/16	L	C	C	FS	Strm	Bosh	....	D	Full	3	K-B	I	Torb	168	Opt	Opt	Opt	Jac	Rug	....

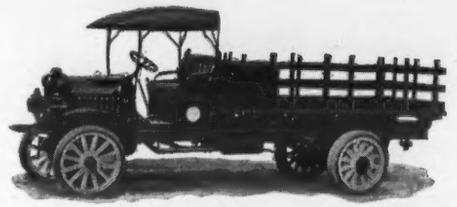
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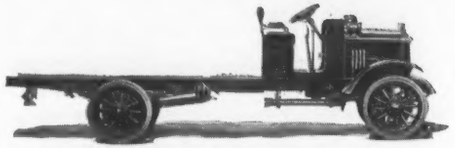
Winther 48, 2-ton Chassis, $3250.
Winther Motor Truck Co., Winthrop Harbor, Ill.



Standard 70, 2-ton Model, Chassis, $2800.
Standard Motor Truck Co., Detroit, Mich.



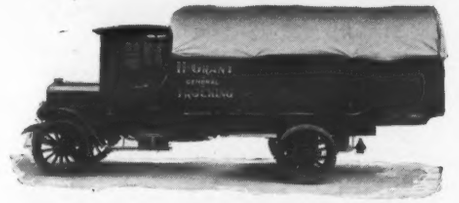
Velie 25-B, 2-ton Model, Chassis, $2950.
Velie Motors Corp., Moline, Ill.



Tower Model F, 2-ton Chassis, $2975.
Tower Motor Truck Co., Greenville, Mich.



Signal J, 2-ton Model, Chassis, $2925.
Signal Motor Truck Co., Detroit, Mich.



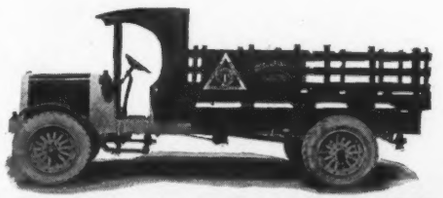
Wilson E, 2-ton Model, Chassis, $2800.
J. C. Wilson Co., Detroit, Mich.

2 Ton Gasoline Commercial Cars

Model	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr. Cent of Weight on Rear Wheels
a. c.																												
Sandow J	4400	....	Cont	4	4⅛x5¼	27.2	3	3/16	L	C	T	FS	Strm	Bosh	....	L	B-Li	3	K-B	W	Timk	165	Det	36x4	36x7	Ross	Mon	....
Service 41	4900	3000	Buda	4	4¼x5½	28.9	3	¼	L	C	T	FS	Strm	Eism	....	D	Selec	4	Spic	W	Timk	160	Math	36x4	36x7	Ross	Dup	71
Signal	5200	2925	Cont	4	4⅛x5¼	27.2	3	3/16	L	C	McC	FS	Strm	Eism	....	L	B-Li	4	Spic	W	Timk	150	Per	34x4	36x8	Ross	Mon	80
Standard 70	4380	2800	Cont	4	4⅛x5¼	27.2	3	3/16	L	C	....	FS	Sheb	Eism	....	D	Covt	3	Spic	W	Timk	144	Tut	36x4	36x6	Ross	Pier	75
Tower F	4700	2975	Cont	4	4⅛x5¼	27.2	3	3/16	L	C	T	Sp	Strm	Bosh	....	F	Full	3	Spic	W	Timk	146	Det	36x4	36x7D	Ross	Pier	75
Traffic	3300	1395	Gray	4	3½x5	20	3	¼	O	T	T	Sp	Cart	King	....	B	Covt	3	Arv	I	Russ	133	Det	34x3½	34x5	Dit	....	75
Velie 25-B	4500	2950	Cont	4	4⅛x5¼	27.2	3	¼	L	C	T	FS	Strm	Bosh	....	B	Selec	4	Spic	W	Timk	135	Math	36x4	36x7	Gem	Pier	80
Winther 48A	5300	3000	Wis	4	4x6	25.6	3	¼	L	P	T	G	Mas	Eism	Bij	B	B-Li	4	Bld	I	Cl	150	Math	36x4	36x4D	Ross	Dup	80
Wilson	4500	2800	Cont	4	4⅛x5¼	27.2	3	3/16	L	C	T	FS	Mar	Eism	....	C	Covt	3	K-B	W	Timk	144	Tut	36x4	36x7	Ross	Pier	80



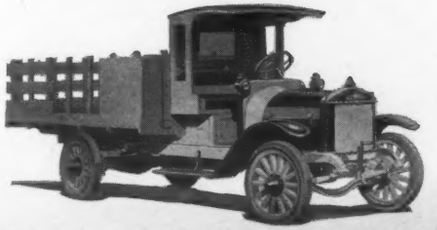
Moreland 17C, 2½-ton Model. Chassis, $3400.
Moreland Motor Truck Co., Los Angeles, Cal.



Triangle B, 2½-ton Model, Chassis, $2850.
Triangle Motor Truck Co., St. Johns, Mich.



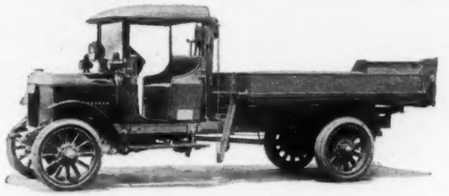
Manly 50, 2½-ton Model, Chassis, $2800.
O'Connel-Manly Truck Co., Waukegan, Ill.



Jumbo A, 2½-ton Model, Chassis, $2500.
Nelson Motor Truck Co., Saginaw, Mich.



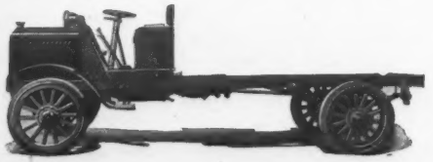
Sandow 2½-ton Model.
Sandow Motor Truck Co., Chicago, Ill.



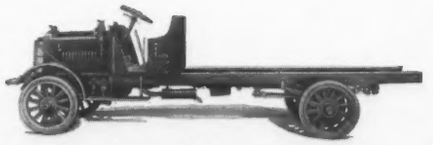
Union BM, 2½-ton Model, Chassis, $2375.
Union Motor Truck Co., Bay City, Mich.



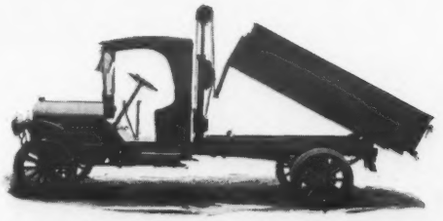
Patriot 2½-ton Model.
Hebb Motors Co., Lincoln, Neb.



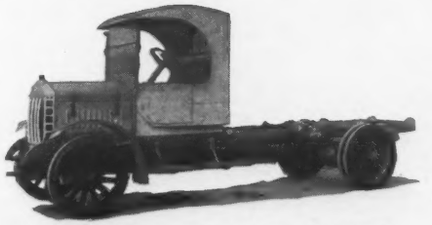
Wichita R, 2½-ton Chassis, $2950.
Wichita Falls Motor Co., Wichita Falls, Tex.



United BX, 2½-ton Chassis.
United Motors Corp., Grand Rapids, Mich.



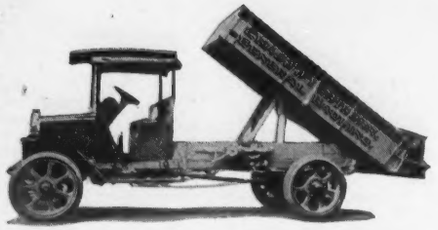
Kankakee E, 2½-ton Model, Chassis, $2265.
Kankakee Automobile Co., Kankakee, Ill.



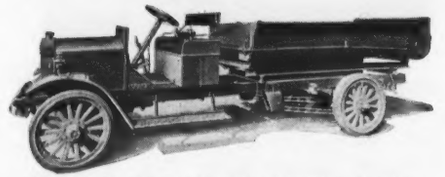
Sterling 2½-ton Model, Chassis, $3300.
Sterling Motor Truck Co., Milwaukee, Wis.

2 ½ Ton Gasoline Commercial Cars

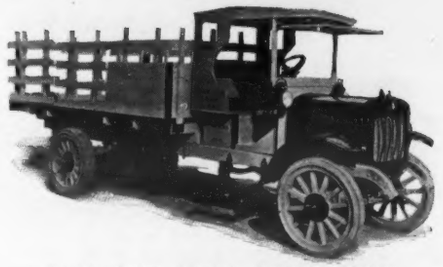
Model c. c.	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr. Cent of Weight on Rear Wheels
Jumbo A	4500	2250	Buda	4	4¼x5½	28.9	3	¼	L	C	H	Fo	Zen	Eism	....	D	Full	3	Arv	I	Cl	168	Det	34x4	34x6	Jac	Dup	60
Kankakee E	3500	2265	Cont	6	3½x5¼	29.4	3	¼	L	C	H	FS	Zen	Will	Delc	U	Munc	3	Acme	I	Russ	147	Tem	34x4	34x6	Ross	....	70
Manly	....	2800	Wau	4	4x5¾	25.6	3	¼	L	C	T	Sp	Zen	Eism	....	D	Selec	4	Ther	W	½Fl	144	Shel	36x4	40x7	Lav	Wau	....
Moreland	5380	3400	Cont	4	4½x5½	32.4	3	5/16	L	C	C	Fo	Mill	Dix	....	D	Selec	4	Ther	W	Timk	Opt	US	36x4	36x7	Ross	....	...
Noble NW2	4660	2675	Cont	4	4⅛x5¼	27.2	3	5/16	L	C	T	FS	Strm	Eism	....	B	Full	4	Bld	W	Shel	148	Kal	36x4	36x7	Ross	Pier	80
Old Reliable	5750	3250	Wis	4	4¼x6	28.9	3	¼	L	C	H	FS	Rayf	Bosh	....	D	Shel	3	Spic	W	Shel	160	Shel	34x4	36x4D	Ross	Mon	....
Panhard E	....	2350	Buda	6	4¼x5½	33.6	.	..	L	C	Per	Fo	Strm	Bosh	....	F	Full	3	UP	I	Torb	150	Det	34x4	34x6	Lav	Dup	....
Patriot	4200	....	Cont	4	4⅛x5¼	27.2	3	5/16	L	C	T	Fo	Strm	Bosh	....	D	Selec	3	Ther	W	Flot	156	....	34x4	34x7	W	Pier	....
Sandow J	4800	3250	Cont	4	4⅛x5¼	27.2	3	5/16	L	G	T	FS	Strm	Bosh	....	D	Selec	3	K-B	W	Timk	165	Det	36x4	36x7	Ross	Mon	70
Sterling	5550	3300	Ster	4	4¼x5¾	28.9	3	¼	L	C	Own	FS	Rayf	Eism	....	L	B-Li	3	Spic	W	Shel	156	Shel	36x4	36x4D	Ross	Wau	75
Triangle B	4900	2850	Rut	4	4⅛x5½	27.3	3	..	L	C	Per	Fo	Strm	Eism	....	F	Full	4	UP	I	Cel	151	Det	34x6	36x7	Gem	Pier	60
Union B	4800	2375	Wis	4	4x6	25.6	3	¼	L	P	T	Fo	Sheb	Eism	....	F	Full	3	UP	I	Russ	152	Math	36x4	36x7	Ross	Dup	75
United BX	....	....	Buda	4	4¼x5½	28.9	3	¼	L	C	T	Fo	Strm	Eism	Opt	L	B-Li	4	Bld	W	Shel	Opt	....	36x4	36x7	Ross	Simp	80
Wichita	....	2950	Wau	4	3¾x5¼	22.5	4	..	L	C	Per	Sp	Strm	Bosh	....	C	B-Li	4	Own	W	Shel	144	Det	36x4	36x7	Ross	Wau	....



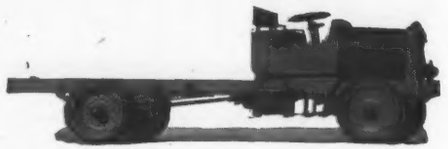
Denby 3-ton Model, Chassis, $3000.
Denby Motor Truck Co., Detroit, Mich.



Manly 60, 3-ton Model, Chassis, $3350.
O'Connel-Manly Truck Co., Waukegan, Ill.



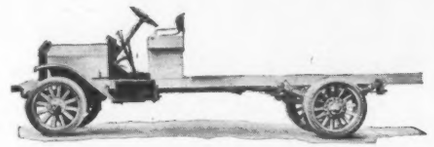
O. K., 3-ton Model, Chassis, $2985.
Oklahoma Auto Mfg. Co., North Muskogee, Okla.



Winther 68, 3-ton Model, Chassis, $3800.
Winther Motor Truck Co., Winthrop Harbor, Ill.



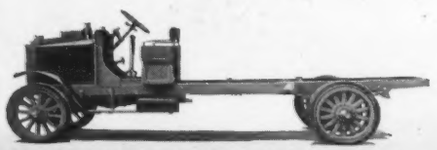
F. W. D., 3-ton Model, Chassis, $4500.
Four Wheel Drive Auto Co., Clintonville, Wis.



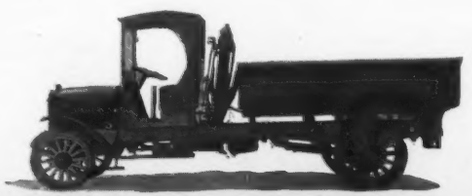
Parker 3-ton Model, Chassis, $3700.
Parker Motor Truck Co., Milwaukee, Wis.

3 Ton Gasoline Commercial Cars

Model a. c.	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr. Cent of Weight on Rear Wheels
Denby 15	4320	3000	Cont	4	3¾x5	22.5	3	⅛	L	T	Lng	FS	Strm	Elsm	....	D	Det	3	UP	I	Russ	144	Det	36x4	36x7	Gem	Mon	79
F. W. D. B	6300	4500	Wis	4	4¾x5½	36.1	3	¼	T	C	Lng	Fo	Strm	Elsm	....	D	Cott	3	Opt	B	Flot	124	Tut	36x6	36x6	Ross	Pier	55
Manly 60	....	3350	Wau	4	4¼x5¾	....	3	¼	L	C	T	Sp	Zen	Elsm	....	D	Selec	4	Ther	W	½Fl	144	Shel	36x5	40x8	Lav	Wau	...
Oklahoma 3TS	4250	2985	Buda	4	4¼x5½	28.9	3	¼	L	C	T	FS	Zen	Elsm	....	D	Selec	4	Hart	W	Wis	158	Tut	36x4	36x7	Ross	Pier	85
Packard 3-E	7000	4100	Own	4	4½x5½	32.4	3	¼	L	C	C	Fo	Own	Dix	Bij	D	Selec	4	Spic	W	Flot	156	SP	36x5	36x5	Own	Own	52
Parker	5300	3700	Cont	6	3½x5¼	29.4	3	¼	L	C	T	FS	Strm	Dix	....	D	Selec	3	....	..	Flot	160	....	34x4	36x5D	Ross	Pier	75
Winther 69	8400	3800	Wis	4	4x6	25.6	3	¼	L	P	T	Fo	Mas	Elsm	Bij	B	B-Li	4	Bld	I	Cl	150	Math	36x5	36x5D	Ross	Dup	80



Acason 3½-ton Model.
Acason Motor Truck Co., Detroit, Mich.



Acme C, 3½-ton Model.
Acme Motor Truck Co., Cadillac, Mich.



Armieder KW, 3½-ton Model, Chassis, $3850.
O. Armieder Co., Cincinnati, Ohio.



Available 3½-ton Model, Chassis, $4200.
Available Truck Co., Chicago, Ill.

Acason Motor Truck Co., Detroit, Mich.

Acme Motor Truck Co., Cadillac, Mich.

O. Armleder Co., Cincinnati, Ohio.

Available Truck Co., Chicago, Ill.



Couple Gear HC, 3½-ton Model, Chassis, $6000.
Couple Gear F. W. Co., Grand Rapids, Mich.



Dart L, 3½-ton Model, Chassis. $4000.
Dart Truck & Tractor Corp., Waterloo, Ia



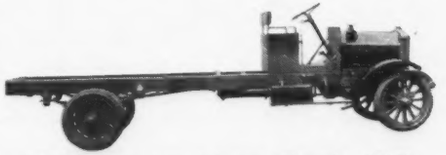
Federal W, 3½-ton Model, Chassis, $3350.
Federal Motor Truck Co., Alma, Mich.



G. M. C. 71, 3½-ton Model, Chassis, $3900.
General Motors Truck Co., Pontiac, Mich.



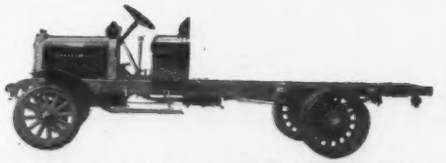
Duplex 3½-ton Model, Chassis, $4000.
Duplex Truck Co., Lansing, Mich.



Diamond T, LB, 3½-ton Chassis, $4150.
Diamond T Motor Car Co., Chicago, Ill.



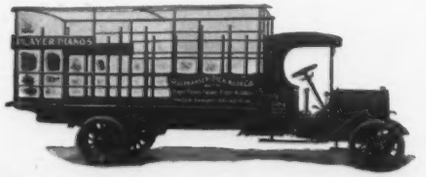
Fageol 3½-ton Model, Chassis, $4250.
Fageol Motors Co., Oakland, Cal.



Master A, 3½-ton Model, Chassis, $3890.
Master Trucks, Inc., Chicago, Ill.



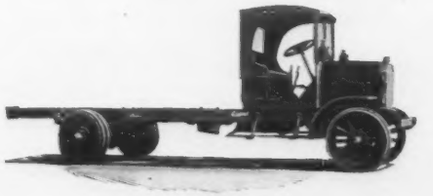
Lane K, 3½-ton Model, Chassis, $3700.
Lane Motor Truck Co., Kalamazoo, Mich.



Nelson & Le Moon, 3½-ton Chassis, $3750.
Nelson & Le Moon, Chicago, Ill.



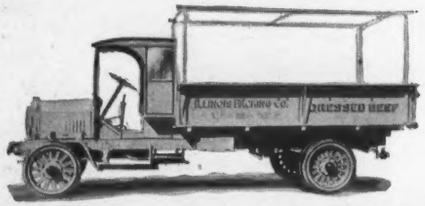
Menominee 3½-ton Model.
Menominee Motor Truck Co., Menominee, Mich.



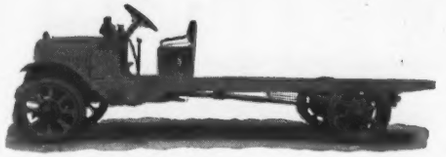
Giant 17, 3½-ton Chassis, $3800.
Chicago Pneumatic Tool Co., Chicago, Ill.

3½ Ton Gasoline Commercial Cars

Model	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr. Cent of Weight on Rear Wheels
g. c.																												
Acason L	6450	....	Wau	4	4½x6¾	28.9	3	¼	L	P	GO	Sp	Strm	Eism	....	U	Munc	4	Bld	W	Timk	172	Det	36x5	36x5D	Ross	Wau	....
Acme C	6500	3650	Cont	4	4½x5½	32.4	3	¼	L	C	GO	FS	Rayf	Eism	....	B	Cott	3	Bld	W	Timk	168	Det	36x5	40x5D	Ross	Dup	80
Armleder KW	6600	3850	Cont	4	4½x5½	32.4	3	1/8	L	C	T	Fo	Sheb	Bosh	....	D	B-Li	3	Opt	W	Timk	Opt	Math	36x5	36x5	Ross	Pier	Opt
Available 3	6500	4200	Cont	4	4½x5½	32.4	3	1/8	L	C	T	Sp	Strm	Bosh	....	L	B-Li	4	Spic	W	Timk	156	Tut	36x6	40x5D	Lav	Pier	70
Couple Gear	9000	6000	Wis	4	5.1x5½	35	4	1/8	T	G	H	Fo	Strm	Eism	....	O	Own	75	....	B	Own	144	Tut	36x4D	36x4D	Own	....	55
Dart L	6740	4000	Buda	4	4½x6	32.5	3	¼	L	C	Idl	Fo	Zen	Eism	....	W	Warn	4	Spic	W	Timk	180	Per	36x5	36x10	Ross	Pier	75
Diamond T-LB	6570	4150	Cont	4	4½x5½	32.4	3	1/8	L	C	T	FS	Strm	Bosh	....	L	B-Li	4	Spic	W	Timk	Opt	Math	36x5	36x5D	Gem	Pier	....
Duplex E	6050	4000	Buda	4	4¼x5½	28.9	3	¼	O	C	Lng	FS	Sheb	Eism	....	L	B-Li	4	Bld	I	Own	130	Tut	36x6	36x6	Lav	Dup	60
Fageol	7300	4250	Wau	4	4¾x5¾	36.1	3	¼	L	C	Flex	Sp	Zen	Dix	....	B	Selec	5	Spic	W	Timk	156	Math	36x5	36x5D	Ross	Wau	80
Federal W	7000	3350	Cont	4	4½x5½	32.4	3	1/8	L	C	T	Sp	Zen	Eism	....	B	Own	4	Spic	W	Timk	156	Math	36x5	36x5D	Gem	Mon	79
Giant 17	6800	3850	Cont	4	4½x5½	32.4	3	1/8	L	C	C	FS	Strm	Eism	....	W	Warn	4	Spic	W	Timk	116	Det	36x5	36x5D	Ross	Pier	90
G. M. C. 71A	6985	3750	Cont	4	4½x5½	32.4	3	1/8	L	C	McC	FS	Mar	Eism	....	D	Selec	4	UM	W	Timk	163	Det	36x5	40x5D	Lav	Mon	75
G. M. C. 71B	7100	3800	Cont	4	4½x5½	32.4	3	1/8	L	C	McC	FS	Mar	Eism	....	D	Selec	4	UM	W	Timk	187	Det	36x5	40x5D	Lav	Mon	75
Hall	....	3500	Cont	4	4½x5½	32.4	3	1/8	L	P	Lng	FS	Zen	Bosh	....	L	B-Li	.	K-B	W	Timk	Opt	Det	36x5	36x5D	Gem	Dup	....
Lane K	5870	3900	Cont	6	3¾x5¼	33.5	3	¼	L	P	Hvn	FS	Strm	Eism	Dyn	B	Full	3	Acme	W	Shel	160	Kal	36x5	36x5D	Ross	Pier	....
Master	7000	3890	Buda	4	4½x6	32.4	4	¼	L	C	H	FS	Own	Eism	....	L	B-Li	4	Spic	W	Timk	158	Det	36x5	40x5	Lav	Pier	....
Menominee G	....	3880	Cont	4	4½x5½	32.4	3	1/8	L	C	T	FS	Strm	Eism	....	F	Full	4	Bld	W	Timk	160	Tut	36x5	36x6	Gem	Pier	80
Nelson & LeMoon	6000	3750	Cont	4	4½x5½	32.4	4	¼	L	C	T	Sp	Strm	Eism	W	L	B-Li	4	Own	W	Timk	Opt	Tut	36x5	36x5D	Lav	Mon	80



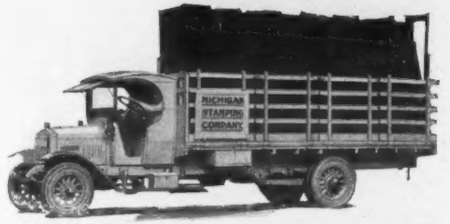
Old Reliable W. C., 3½-ton Model, Chassis, $4000.
Old Reliable Motor Truck Co., Chicago, Ill.



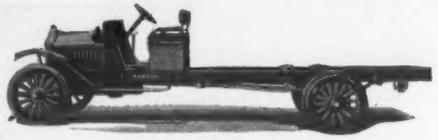
Republic T, 3½-ton Model, Chassis, $3450.
Republic Motor Truck Co., Alma, Mich.



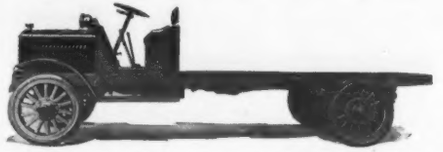
Oneida D, 3½-ton Model, Chassis, $3700.
Oneida Motor Truck Co., Green Bay, Wis.



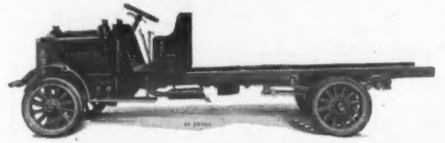
Signal M, 3½-ton Model, Chassis, $3950.
Signal Motor Truck Co., Detroit, Mich.



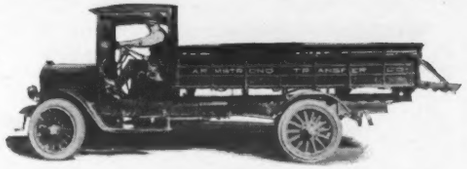
Sandow, 3½-ton Model, Chassis.
Sandow Motor Truck Co., Chicago, Ill.



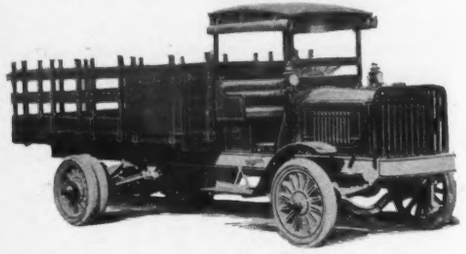
Wichita O, 3½-ton Chassis, $3750.
Wichita Falls Motor Co., Wichita Falls, Tex.



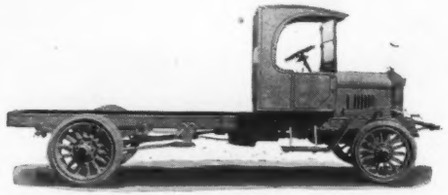
United CX, 3½-ton Chassis.
United Motors Co., Grand Rapids, Mich.



Wilson G, 3½-ton Model, Chassis, $3800.
J. C. Wilson Co., Detroit, Mich.



Standard 66, 3½-ton Model, Chassis, $3675.
Standard Motor Truck Co., Detroit, Mich.



Titan 3½-ton Hi-Way Transport, $4300.
Titan Truck Co., Milwaukee, Wis.



Velie 26-B, 3½-ton Model, Chassis, $3900.
Velie Motors Corp., Moline, Ill.

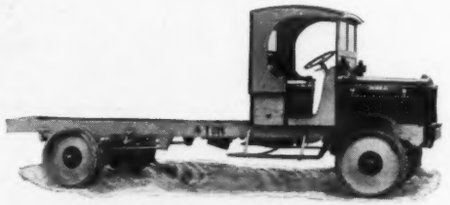


Sterling 3½-ton Model, Chassis, $4325.
Sterling Motor Truck Co., Milwaukee, Wis.

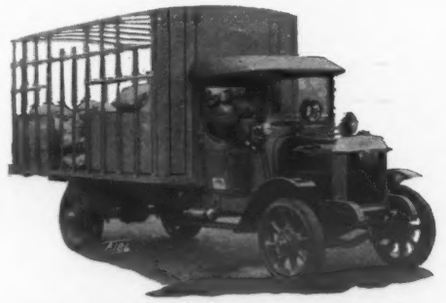
3½ Ton Gasoline Commercial Cars—Continued

Model a. c.	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr. Cent of Weight on Rear Wheels
Old Reliable	6650	4000	Wis	4	4¼x6	28.9	3	¼	L	C	T	FS	Rayf	Bosh	....	D	B-Li	4	Spic	W	Shel	160	Shel	34x5	36x5D	Ross	Mon	....
Oneida D	7270	3700	Cont	4	4½x5½	32.4	3	⅜	L	C	Lng	FS	Strm	Bosh	Opt	M	Cott	3	Spic	W	Timk	160	Math	36x5	36x5D	Ross	Pier	82½
Paige	7000	....	Cont	4	4½x5½	32.4	3	⅜	L	C	T	FS	Strm	Bosh	....	L	Selec	4	Spic	W	Timk	160	Per	36x5	36x5D	Jac	Pier	70
Republic TX165	6360	3450	Buda	4	4¼x5½	28.9	3	¼	L	C	Own	FS	Strm	Bosh	....	D	Full	4	K-B	I	Torb	165	Opt	Opt	Opt	Jac	Rug	....
Republic TX185	6360	3450	Buda	4	4½x5½	32.4	3	⅜	L	C	Own	FS	Strm	Bosh	....	D	Full	4	K-B	I	Torb	185	Opt	Opt	Opt	Jac	Rug	....
Sandow K	6000	....	Cont	4	4½x5½	32.4	3	⅜	L	C	T	FS	Strm	Bosh	....	D	Selec	3	K-B	W	Timk	175	Det	36x5	36x5D	Ross	Mon	....
Service 71	6700	3900	Buda	4	4¼x5½	28.9	3	¼	L	C	T	Fo	Strm	Eism	....	D	Selec	4	Spic	W	Timk	171	Math	36x5	36x5D	Ross	Dup	70
Service 76	7100	4200	Buda	4	4½x6	32.4	3	¼	L	C	T	Fo	Strm	Eism	....	D	Selec	4	Spic	W	Timk	171	Math	36x5	36x5D	Ross	Dup	70
Signal M	7300	3950	Cont	4	4½x5½	32.4	3	⅜	L	C	McC	FS	Strm	Eism	....	B	B-Li	4	Spic	W	Timk	168	Per	36x5	40x5D	Ross	Mon	80
Standard 65	6280	3675	Cont	4	4½x5½	32.4	3	⅜	L	C	....	FS	Sheb	Eism	....	D	Selec	3	Spic	W	Timk	158	Tut	36x5	36x5D	Ross	Pier	75
Sterling	8570	4325	Ster	4	4¼x6¾	28.9	3	¼	L	C	Own	FS	Rayf	Eism	....	M	Own	3	Opt	W	Timk	162	Math	36x5	40x5D	Ross	Wau	75
Titan	7350	4300	Buda	4	4½x6	32.4	3	¼	L	P	T	Fo	Strm	Bosh	....	D	Cott	3	....	I	....	162	Shel	36x5	40x5D	Lav	Simp	70
Twin Cy 4 Wh.D.B	7200	4750	Wis	4	5⅛x6	42	3	..	T	C	H	FS	Strm	K-W	....	M	Cott	3	....	I	½Fl	140	....	....	....	Ross	Pier	60
United CX	....	....	Buda	4	4½x6	32.4	4	¼	L	C	....	Fo	Strm	Eism	Opt	L	B-Li	4	Bld	W	Shel	160	....	36x5	36x5D	Ross	Simp	80
Velie 26-B	6500	3900	Covt	4	4½x5½	32.4	3	⅜	L	C	T	FS	Strm	Bosh	....	B	B-Li	4	Spic	W	Timk	148	Math	36x5	36x5D	Gem	Pier	80
Wichita O	....	3750	Wau	4	4½x5¾	32.4	4	..	L	C	EM	Sp	Strm	Bosh	....	C	B-Li	4	Own	W	Shel	165	Det	36x5	36x5D	Ross	Wau	....
Wilson G	6800	3800	Cont	4	4½x5½	32.4	3	⅜	L	C	T	FS	Strm	Eism	....	D	Covt	4	K-B	W	Timk	160	Tut	36x5	36x5D	Ross	Pier	80

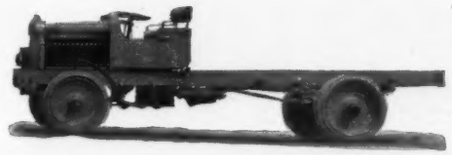
LAST HALF OF REVIEW. FIRST HALF WAS IN THE JANUARY ISSUE



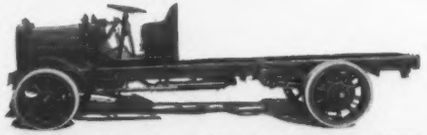
Noble N. W. 4, 4-ton Model, Chassis, $3750.
Noble Motor Truck Corp., Kendallville, Ind.



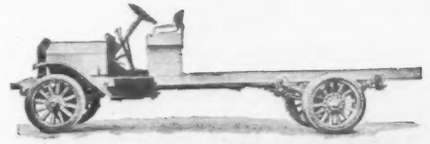
Union C, 4-ton Model, Chassis, $3500.
Union Motor Truck Co., Bay City, Mich.



Winther 89, 4-ton Model, Chassis, $4200.
Winther Motor Truck Co., Winthrop Harbor, Ill.



Moreland 17G, 4-ton Model, Chassis, $4375.
Moreland Motor Truck Co., Los Angeles, Cal.



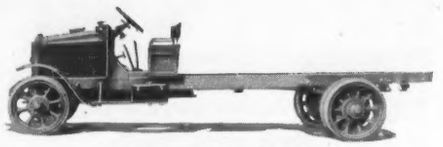
Parker 4-ton Model, Chassis, $4250.
Parker Motor Truck Co., Milwaukee, Wis.

4 Ton Gasoline Commercial Cars

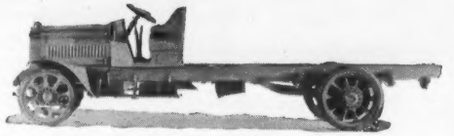
Model a. c.	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr.Cent of Weight on Rear Wheels
Moreland 19G	7810	4375	Cont	4	4¾x6	36.1	3	¼	L	C	C	FS	Mill	Dix	....	D	Selec	4	Ther	W	Timk	162	US	36x5	40x5D	Ross	Cont	....
Noble NW4	6540	3750	Cont	4	4½x5½	32.4	3	1/8	L	C	T	FS	Strm	Eism	....	B	Full	4	Acme	W	Shel	168	Kal	36x5	36x5D	Ross	Pier	80
Packard 4E	7460	4450	Own	4	4½x5½	32.4	3	¼	L	C	C	Fo	Own	Dix	Bij	D	Selec	4	Spic	W	Flot	156	SP	36x5	40x5	Own	Own	52
Parker	7100	4250	Cont	6	3¾x5½	33.7	3	¼	L	C	T	FS	Strm	Dix	....	D	Selec	3	Spic	W	Own	160	Tut	36x5	40x5D	Ross	Pier	85
Union C	6000	3500	Wis	4	4¼x6	28.9	3	¼	L	P	T	Fo	Sheb	Eism	....	F	Full	4	UP	I	Torb	180	Math	36x6	36x10	Ross	Dup	75
Winther 88	7600	4200	Wis	4	4¼x6	28.9	3	¼	L	P	T	G	Mas	Eism	Bij	B	B-Li	4	Bld	I	Cl	156	Math	36x5	40x5D	Ross	Dup	80



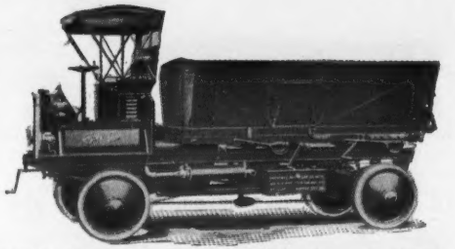
Denby 5-ton Model, Chassis, $4900.
Denby Motor Truck Co., Detroit, Mich.



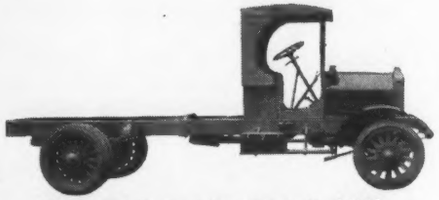
Acason 5-ton Model.
Acason Motor Truck Co., Detroit, Mich.



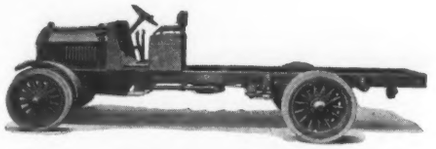
Acme E, 5-ton Model.
Acme Motor Truck Co., Cadillac, Mich.



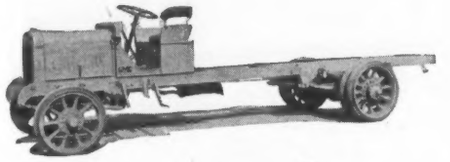
Couple Gear AC, 5-ton Model, Chassis, $6500.
Couple Gear F. W. Co., Grand Rapids, Mich



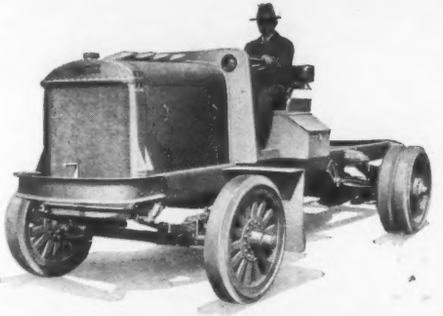
Diamond T R, 5-ton Chassis, $4950.
Diamond T Motor Car Co., Chicago, Ill.



Sandow 5-ton Model.
Sandow Motor Truck Co., Chicago, Ill.



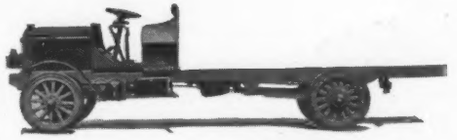
G. M. C., 101, 5-ton Model, Chassis, $4350.
General Motors Truck Co., Pontiac, Mich.



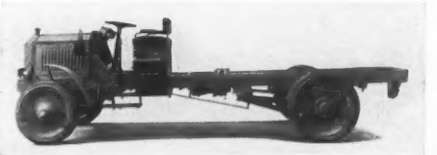
Fageol 5-ton Model, Chassis, $5100.
Fageol Motors Co., Oakland, Cal.



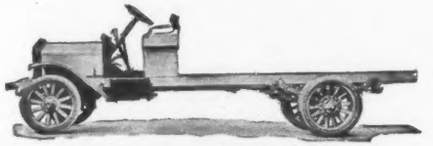
Moreland 17J, 5-ton Model, Chassis, $5000.
Moreland Motor Truck Co., Los Angeles, Cal.



Menominee J, 5-ton Model.
Menominee Motor Truck Co., Menominee, Mich.



Packard 5E, 5-ton Model, Chassis, $5150.
Packard Motor Car Co., Detroit, Mich.



Parker 5-ton Model, $5000.
Parker Motor Truck Co., Milwaukee, Wis.



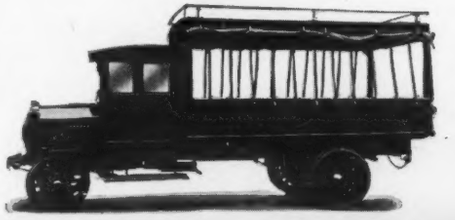
Nelson & Le Moon 5-ton Model, Chassis, $4750.
Nelson & Le Moon, Chicago, Ill.



Oneida E, 5-ton Model, Chassis, $4750.
Oneida Motor Truck Co., Green Bay, Wis.



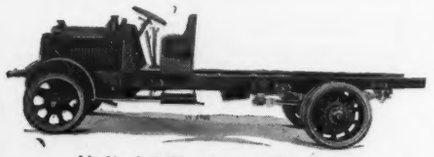
Federal X, 5-ton Model, Chassis, $4400.
Federal Motor Truck Co., Alma, Mich.



Old Reliable 5-ton Model, Chassis, $5000.
Old Reliable Motor Truck Co., Chicago, Ill.

Nelson & Le Moon, Chicago, Ill.

Oneida Motor Truck Co., Green Bay, Wis.



United VX, 5-ton Chassis.
United Motors Corp., Grand Rapids, Mich.



Wichita Q, 5-ton Model, Chassis, $4600.
Wichita Falls Motor Co., Wichita Falls, Tex.



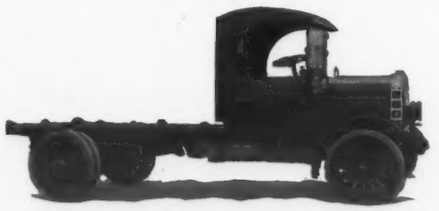
Wilson H, 5-ton Model, Chassis, $4600.
J. C. Wilson Co., Detroit, Mich.



Winther 109. 5-ton Chassis, $5000.
Winther Motor Truck Co., Winthrop Harbor, Ill.



Signal R, 5-ton Model, Chassis, $4750.
Signal Motor Truck Co., Detroit, Mich.



Sterling 5-ton Chassis, $5100.
Sterling Motor Truck Co., Milwaukee, Wis.



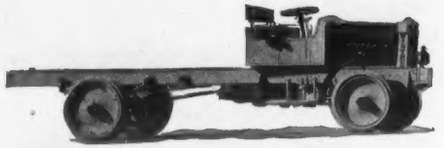
Titan 5-6-ton Heavy Duty, Chassis, $5150.
Titan Truck Co., Milwaukee, Wis.



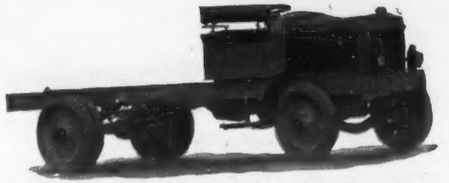
Standard 85, 5-ton Model, Chassis, $4650.
Standard Motor Truck Co., Detroit, Mich.

5 Ton Gasoline Commercial Cars

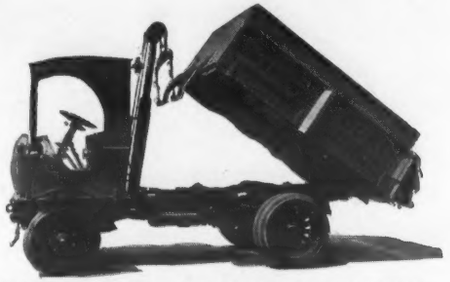
Model a. c.	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr. Cent of Weight on Rear Wheels
Acason H1	8325	....	Wau	4	4¾x6¾	36.1	3	¼	L	P	GO	Sp	Strm	Eism	....	B	Cott	3	Bld	W	Timk	187	Det	36x6	40x6D	Ross	Wau	....
Acme E	8860	4750	Cont	4	4¾x6	36.1	3	¼	L	C	GO	Fo	Rayf	Eism	....	B	Cott	3	Bld	W	Timk	180	Det	36x6	40x6D	Ross	Cont	80
Couple Gear	10000	6500	Wis	4	5¼x7	42	4	5/16	L	G	H	Fo	Strm	Eism	Own	..	Own	75	....	B	Own	144	Tut	36x5D	36x5D	Own	....	60
Denby	8600	4900	Cont	4	4½x5½	32.4	3	5/16	L	C	Lng	FS	Strm	Eism	....	D	Warn	4	UP	I	Cl	170	Det	36x6	40x12	Ross	Simp	79
Diamond TR	8300	4950	Cont	4	4½x5½	32.4	3	5/16	L	C	T	FS	Strm	Bosh	....	L	B-Li	4	Spic	W	Timk	170	Math	36x6	40x6D	Gem	Pier	....
Fageol	8300	5100	Wau	4	4¾x5¾	36.1	3	¼	L	C	Flex	Sp	Zen	Dix	....	B	Selec	5	Spic	W	Timk	156	Math	36x6	36x6D	Ross	Wau	80
Federal X	8100	4400	Cont	4	4½x5½	32.4	3	5/16	L	C	T	Sp	Zen	Eism	....	B	Own	4	Spic	W	Timk	156	Math	36x6	40x6D	Gem	Mon	80
G. M. C. 101-A	8000	4350	Cont	4	4½x5½	32.4	3	5/16	L	C	McC	FS	Mar	Eism	....	D	Selec	4	UM	W	Timk	163	Det	36x6	40x6D	Lav	Mon	75
G. M. C. 101-B	8200	4400	Cont	4	4½x5½	32.4	3	5/16	L	C	McC	FS	Mar	Eism	....	D	Selec	4	UM	W	Timk	187	Det	36x6	40x6D	Lav	Mon	75
Hall	....	4500	Cont	4	4½x5½	32.5	.	..	L	P	Lng	FS	Zen	Bosh	....	..	B-Li	.	K-B	W	Timk	Opt	Det	36x5	40x6D	Gem	Dup	....
Kissel	7600	....	Own	4	4¼x5½	28.9	3	5/16	L	C	May	Sp	Strm	Eism	....	W	Warn	4	Spic	W	Shel	180	Shel	36x6	36x6D	Ross	Pier	75
Menominee	....	4950	Cont	4	4½x5½	32.4	3	5/16	L	C	T	FS	Strm	Eism	....	F	Selec	4	Bld	W	Timk	160	Tut	36x6	40x6D	Gem	Pier	80
Moreland 19-J	9000	4725	Cont	4	4¾x6¾	36.1	3	¼	L	C	Own	Fo	Mill	Dix	....	D	Selec	4	Ther	W	Timk	192	US	36x6	40x6D	Ross	Cont	....
Nelson & LeMoon	8000	4750	Buda	4	4½x6	32.4	4	¼	L	C	T	Fo	Strm	Eism	West	L	B-Li	4	Own	W	Timk	Opt	Tut	36x6	40x6D	Lav	Mon	80
Old Reliable	8200	5000	Opt	4	4¾x5½	36.1	3	¼	T	C	I	FS	Strm	Bosh	....	D	Selec	3	Hart	C	Shel	126	S-El	36x6	36x6D	Ross	Opt	....
Old Reliable	8400	5000	Opt	4	5.1x5½	....	3	¼	T	C	T	FS	Strm	Bosh	....	D	B-Li	4	Spic	W	Shel	166	Shel	36x5	40x6D	Ross	Opt	....
Oneida E	9315	4750	Cont	4	5¼x5¾	44.1	.	..	L	C	Lng	FS	Strm	Bosh	Opt	M	Cott	3	Spic	W	Timk	170	Math	36x6	40x12	Ross	Pier	82½
Packard 5-E	8650	5150	Own	4	5x5½	40	.	¼	L	C	C	Fo	Own	Dix	Bij	D	Selec	4	Spic	W	Flot	156	SP	36x6	40x6	Own	Own	57
Parker	9000	5000	Cont	6	3¾x5½	33.7	3	¼	L	C	T	Sp	Strm	Dix	West	L	Selec	3	Spic	W	Own	168	Tut	36x5	40x6D	Ross	Pier	85
Sandow L	8400	4950	Wau	4	4¾x6¾	36.1	3	¼	L	G	T	FS	Strm	Bosh	....	D	Selec	4	K-B	W	Timk	165	Det	36x6	40x6D	Ross	Wau	70
Service 101	8240	5000	Buda	4	4½x6	32.4	3	¼	L	C	T	Fo	Strm	Eism	....	D	Selec	4	Spic	W	Timk	171	Math	36x6	36x6D	Ross	Dup	75
Signal R	8200	4750	Cont	4	4¾x6	36.1	3	¼	L	C	McC	FS	Strm	Eism	....	B	B-Li	4	Spic	W	Timk	180	Per	36x6	40x6D	Ross	Cont	80
Standard 85	7500	4650	Cont	4	4½x5½	32.4	3	5/16	L	C	....	FS	Sheb	Eism	....	D	B-Li	4	Spic	W	Timk	158	Tut	36x6	40x6D	Ross	Pier	75
Sterling	9500	5100	Ster	4	4¾x6¾	36.1	3	¼	L	C	C	FS	Rayf	Eism	....	M	Own	3	Opt	W	Timk	168	Math	36x6	40x6D	Ross	Wau	75
Titan	9100	5150	Buda	4	4½x6	32.4	3	¼	L	P	T	Fo	Strm	Bosh	....	D	Cott	3	....	I	....	156	Shel	36x6	40x6D	Lav	Simp	70
Twin Cy 4 WhDr.A	8000	5250	Wis	4	5½x6	42	3	¼	T	C	H	FS	Strm	K-W	....	M	Cott	3	....	I	½Fl	140	....	....	....	Ross	Pier	60
United VX	....	....	Buda	4	4½x6	32.4	3	¼	L	C	....	Fo	Strm	Eism	....	L	B-Li	4	Bld	W	Shel	160	....	36x5	40x6D	Ross	Simp	80
Wichita Q	....	4600	Wau	4	4½x5¾	22.4	4	¼	L	C	EM	Sp	Strm	Bosh	....	C	B-Li	4	Own	W	Shel	165	Det	38x6	38x6D	Ross	Wau	....
Winther 109	8300	5000	Wis	4	4¾x5½	36.1	3	¼	T	C	T	G	Mas	Eism	Bij	B	B-Li	4	Bld	I	Cl	162	Math	36x5	40x6D	Ross	Dup	80
Wilson H	7500	4600	Cont	4	4½x5½	32.4	3	5/16	L	C	T	FS	Strm	Eism	....	D	Covt	4	K-B	W	Timk	160	Tut	36x6	40x6D	Ross	Pier	80



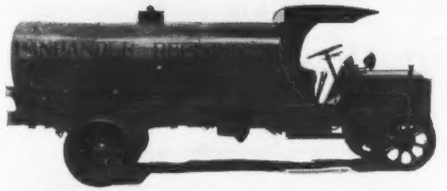
Winther 149, 7-ton Model, Chassis, $5500.
Winther Motor Truck Co., Winthrop Harbor, Ill.



Winther 129, 6-ton Model, Chassis, $5250.
Winther Motor Truck Co., Winthrop Harbor, Ill.



Old Reliable Cp, 7-ton Model, Chassis, $6000.
Old Reliable Motor Truck Co., Chicago, Ill.



Wichita S, 6-ton Model, Chassis, $5400.
Wichita Falls Motor Co., Wichita Falls, Tex.



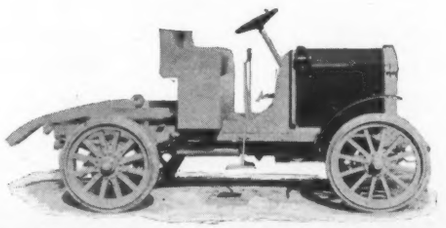
Couple Gear, LDC, 7-ton Model, Chassis, $7200.
Couple Gear F. W. Co., Grand Rapids, Mich.

5½, 6, 7 Ton Gasoline Commercial Cars

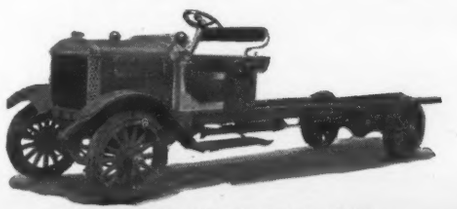
Model a. c.	Chassis Weight	Chassis Price	Engine	No. of Cylindrs	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr.Cent of Weight on Rear Wheels
Winther 129	9000	5250	Wis	4	5⅛x6	42	3	¼	T	C	T	G	Mas	Eism	Bij	B	B-Li	4	Bld	I	Cl	162	Math	36x6	40x12	Ross	Dup	80
Couple Gear 6	11000	7200	Wis	4	5¼x7	44.1	4	5/16	T	G	H	Fo	Strm	Eism	Own	..	Own	75	Own	On	Own	144	Tut	36x5D	36x6	Own	....	65
Hall	....	4500	Cont	4	4½x5½	32.4	.	..	L	P	Lng	FS	Zen	Bosh	....	L	B-Li	.	K-B	Ch	Timk	Opt	Per	36x4	40x6D	Gem	Dup	....
Old Reliable CP	10240	6000	Wau	4	4¾x6¾	36.1	3	¼	L	C	T	FS	Strm	Bosh	....	D	Selec	4	Spic	C	Shel	124	Shel	36x6	40x7D	Ross	Wau	....
Packard 6-E	8925	5400	Own	4	5x5½	40	.	¼	L	C	C	Fo	Own	Dix	Bij	D	Selec	4	Spic	W	Flot	156	SP	36x6	40x7	Own	Own	57
Wichita S	9240	5400	Beav	4	4½x6	32.4	3	¼	O	C	C	Fo	Strm	Bosh	....	D	Own	4	Own	B	Own	165	Det	40x6D	40x6D	Ross	Dup	75
Winther 149	9600	5500	Wis	4	5⅛x6	42	3	¼	T	C	T	G	Mas	Eism	Bij	B	B-Li	4	Bld	I	Cl	162	Math	36x6	40x14	Ross	Dup	80



Kuhn 5-ton Tractor, $5000.
Kuhn Tractor Truck Co., Seattle, Wash.



Lapeer, 3 or 5-ton Model, Chassis, $2100 or $2600.
Lapeer Tractor Truck Co., Lapeer, Mich.



Ross Utility 3-ton Tractor, $1850.
Ross Motors, Ltd., Chicago, Ill.

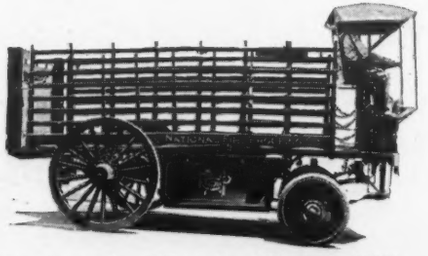
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Gasoline Truck-Tractors

Model	Chassis Weight	Chassis Price	Engine	No. of Cylinders	Bore and Stroke	Horse Power	Piston Rings Per Cylinder	Piston Ring Groove Width	Valve Location	How Cooled	Radiator Make or Type	Lubrication	Carburetor	Ignition System	Engine Starter	Clutch Make or Type	Transmission	Speeds Forward	Universal	Drive	Rear Axle	Wheelbase	Springs	Front Tires	Rear Tires	Steering Gear	Governor	Pr. Cent of Weight on Rear Wheels
G. C.																												
Columbia T	4000	2275	Cont	4	4⅛x5¼	27.2	3	1/8	L	C	Tub	Fo	Shk	Dix	....	C	Covt	3	Spic	I	Russ	112	Per	36x4	36x6	W	Pier	80
Kuhn	9000	5000	Wis	4	4¼x5½	28.9	3	1/8	T	C	H	Sp	Rayf	Bosh	....	C	Selec	4	....	B	Own	138	....	36x7	36x7	....	....	55
Lapeer (3-ton)	3050	2100	Wau	4	3½x5¼	19.6	3	¼	L	P	....	FS	....	Mag	....	D	Selec	3	....	I	Torb	90	....	34x3½	34x5	....	....	..
Lapeer (5-ton)	3400	2600	Wau	4	4x5¾	25.6	.	..	L	P	....	FS	....	Mag	....	D	Selec	3	....	I	Torb	90	....	34x3½	34x3½D	....	....	..
Ross E	3800	1850	Own	4	4⅛x6	28.9	3	¼	L	P	T	Fo	....	Mag	....	C	Selec	3	Own	W	Own	144	Tut	.....	.....	Ross	Own	..



Walker N, 5-ton Model.
Walker Vehicle Co., Chicago, Ill.



Couple Gear LDF, 7-ton, Chassis, $5900.
Couple Gear F. W. Co., Grand Rapids, Mich.



Couple Gear, H, 3½-ton, Chassis, $4750.
Couple Gear F. W. Co., Grand Rapids, Mich.



Walker K, 1-ton Model.
Walker Vehicle Co., Chicago, Ill.

Electric Commercial Cars

E. C. Name and Model Number	Carrying Capacity	Chassis Weight	Chassis Price	Maximum Speed	Battery	Mileage Per Charge	Motor	Controller	Speeds Forward	Drive	Rear Axle	Springs	Front Tires	Rear Tires	Steering Gear	Wheelbase	Per Cent Weight on Rear Wheels
Walker	1000	2300	....	15	Opt	60	West	West	5	O	Own	Math	34x3	36x3½	Ross	93	66
Walker	1-ton	2500	....	14	Opt	60	West	West	5	O	Own	Math	34x3½	36x4	Ross	96	66
Walker	2-ton	3700	....	13	Opt	60	West	West	5	O	Own	Math	38x4	38x6	Ross	110	66
Couple Gear	3½-ton	8000	5200	12	Phil	30	Own	Own	5	O	Own	Math	38x4	38x4D	Own	96	55
Walker	3½-ton	5300	....	11	Opt	50	West	West	5	W	Shel	Shel	32x4	38x5D	Ross	131	66
Couple Gear	5-ton	9000	5800	10	Phil	30	Own	Own	5	B	Own	Tut	36x5D	36x5D	Own	96	55
Couple Gear	7-ton	10000	4800	7	Phil	30	Own	Own	5	B	Timk	Tut	36x5D	36x5D	Own	96	75
Walker	5-ton	6300	....	10	Opt	50	West	West	5	O	Own	Math	36x5D	36x5D	Ross	144	66
Couple Gear	7-ton	12000	5400	7	Phil	30	Own	Own	5	B	Timk	Tut	36x5	68x7S	Own	104	75
Couple Gear	7-ton	10000	6500	10	Phil	30	Own	Own	5	B	Own	Tut	36x5D	36x5D	Own	96	55

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1000 Pound Commercial Cars.

Price	Cyl.	H.P.	Maker	Page
835	4	24	Dodge Bros.	39
2000	6	29.6	Velie Motor Corp.	39

1500 Pound Commercial Cars.

Price	Cyl.	H.P.	Maker	Page
800	4	19.6	Famous Trucks, Inc.	39
1350	4	27.2	Reo Motor Car Co.	39
1550	4	19.6	International Harvester Corp.	39
1775	4	22.5	General Motors Truck Co.	39

1 Ton Commercial Cars.

Price	Cyl.	H.P.	Maker	Page
550	4	22.5	Ford Motor Co.	39
975	4	22.5	Dearborn Motor Truck Co.	39
1085	4	21.3	Maxwell Motor Co.	39
1195	4	19.6	Panhard Motors Co.	40
1285	4	22.5	Traverse City	39
1295	4	16.9	All-American Truck Co.	39
1325	4	22.5	Chevrolet Motor Co.	39
1535	4	19.6	Republic Motor Truck Co.	40
1625	4	22.5	Commerce Motor Car Co.	39
1650	4	19.6	Denby Motor Truck Co.	39
1650	4	22.5	Nash Motors Co.	39
1750	4	22.5	Columbia Motor Truck & Trailer Co.	39
1750	4	19.6	J. C. Wilson Co.	40
1850	4	19.6	International Harvester Corp.	39
1850	4	19.6	Chicago Pneumatic Tool Co.	39
1890	4	22.5	Menominee Motor Truck Co.	39
1900	4	22.5	Federal Motor Truck Co.	39
1950	4	22.5	Acme Motor Truck Co.	39
2000	4	19.6	Higrade Motors Co.	39
2000	4	27.2	Signal Motor Truck Co.	40
2000	4	19.6	Wichita Falls Motor Truck Co.	40
2095	4	22.5	Ogden Motor & Supply Co.	39
2100	4	19.6	Service Motor Truck Co.	40
2125	4	19.6	Diamond T Motor Car Co.	39
2125	4	22.5	General Motors Truck Co.	39
2290	4	22.5	Oneida Motor Truck Co.	40
2650	4	45.6	Packard Motor Car Co.	40

1¼ Ton Commercial Cars.

Price	Cyl.	H.P.	Maker	Page
1375	4	19.6	Collier Motor Truck Co.	40
1575	4	19.6	Comet Automobile Co.	40

1½ Ton Commercial Cars.

Price	Cyl.	H.P.	Maker	Page
1395	4	19.6	Panhard Motors Co.	43
1775	4	22.5	Republic Motor Truck Co.	43
1900	4	22.5	Hawkeye Truck Co.	43
1980	4	19.6	Dearborn Motor Truck Co.	41
1990	4	27.2	Master Trucks, Inc.	43
2000	4	27.2	Douglas Motors Corp.	41
2050	4	22.5	O'Connell Manly Co.	43
2073	4	24.1	Kissel Motor Car Co.	41
2180	4	22.5	American Commercial Car Co.	41
2200	4	19.6	International Harvester Co.	41
2250	4	19.6	Chicago Pneumatic Tool Co.	41
2250	4	22.5	Lane Motor Truck Co.	43
2250	4	27.2	Oklahoma Auto Mfg. Co.	43
2285	4	22.5	Triangle Motor Truck Co.	43
2350	4	27.2	Federal Motor Truck Co.	41
2350	4	25.6	Old Reliable Motor Truck Co.	43
2350	4	19.6	Wichita Falls Motor Truck Co.	43
2395	4	22.5	General Motors Truck Co.	41
2425	4	22.5	Nelson & Le Moon	43
2550	4	22.5	Diamond T Motor Car Co.	41
2650	4	27.2	Moreland Motor Truck Co.	43
2700	4	27.2	Signal Motor Truck Co.	43
2950	4	27.2	Velie Motor Corp.	43

2 Ton Commercial Cars.

Price	Cyl.	H.P.	Maker	Page
1395	4	20	Traffic Motor Truck Corp.	45
2175	4	22.5	Nash Motors Co.	45
2200	4	22.5	Fargo Motor Car Co.	45
2275	4	27.2	Columbia Motor Truck & Trailer Co.	43
2325	4	27.2	Muskegon Engine Co.	45
2350	4	22.5	Denby Motor Truck Co.	45
2350	4	22.5	O'Connell-Manly Truck Co.	45
2390	4	28.9	Master Trucks, Inc.	45
2450	4	....	Oklahoma Auto Mfg. Co.	45
2490	4	28.9	Master Trucks, Inc.	45
2500	4	22.5	Hawkeye Truck Co.	45
2500	4	28.9	Nelson Motor Car Co.	45
2590	4	28.9	Master Trucks, Inc.	45
2600	4	27.2	Federal Motor Truck Co.	45
2600	4	25.6	International Harvester Corp.	45
2690	4	28.9	Master Trucks, Inc.	45
2695	4	27.2	Ogden Motor & Supply Co.	45
2750	4	28.9	Dart Truck & Tractor Corp.	45
2750	4	27.2	Tower Motor Truck Co.	45
2800	4	27.2	General Motors Truck Co.	45
2800	4	27.2	Standard Motor Truck Co.	46
2800	4	27.2	Wilson, J. C. Co.	46
2832	4	28.9	Kissel Motor Car Co.	45
2850	4	27.2	Chicago Pneumatic Tool Co.	43
2925	4	27.2	Diamond T Motor Car Co.	45
2925	4	27.2	Signal Motor Truck Co.	46
2950	4	27.2	Available Truck Co.	43
2950	4	27.2	Paige-Detroit Motor Car Co.	45
2950	4	27.2	Star Carriage Co.	45
2950	4	27.2	Velie Motors Corp.	46
2975	6	29.7	Lane Motor Truck Co.	45
3000	4	27.2	Oneida Motor Truck Co.	45
3000	4	28.9	Service Motor Truck Co.	46
3150	6	29.4	Parker Motor Truck Co.	45
3250	4	28.9	Nash Motors Co.	45
3300	4	28.9	Fageol Motors Co.	45
3400	4	25.6	Packard Motor Car Co.	45
3425	4	28.9	Dorris Motor Car Co.	45
3500	4	16.9	Oshkosh Motor Truck Mfg. Co.	45

2½ Ton Commercial Cars.

Price	Cyl.	H.P.	Maker	Page
2265	6	29.4	Kankakee Automobile Co.	47
2350	4	27.2	Panhard	47
2375	4	25.6	Union Motor Truck Co.	47
2500	4	28.9	Nelson Motor Truck Co.	47
2675	4	27.2	Noble Motor Truck Co.	47
2800	4	25.6	O'Connell-Manly Truck Co.	47
2850	4	27.2	Triangle Motor Truck Co.	47
2950	4	22.5	Wichita Falls Motor Co.	47
3250	4	28.9	Old Reliable Motor Truck Co.	47
3300	4	28.9	Sterling Motor Truck Co.	47
3900	4	32.4	Moreland Motor Truck Co.	47

3 Ton Commercial Cars.

Price	Cyl.	H.P.	Maker	Page
2985	4	28.9	Oklahoma Auto Mfg. Co.	48
3000	4	22.5	Denby Motor Truck Co.	48
3350	4	....	O'Connell-Manly Truck Co.	48
3700	6	29.4	Parker Motor Truck Co.	48
3800	4	25.6	Winther Motor Truck Co.	48
4100	4	32.4	Packard Motor Car Co.	48

3½ Ton Commercial Cars.

Price	Cyl.	H.P.	Maker	Page
3200	4	32.4	Titan Truck Co.	50
3350	4	32.5	Federal Motor Truck Co.	49
3450	4	32.4	Republic Motor Truck Co.	50
3450	4	28.9	Republic Motor Truck Co.	50
3675	4	32.4	Standard Motor Truck Co.	50
3700	6	33.5	Lane Motor Truck Co.	49
3700	4	32.4	Oneida Motor Truck Co.	50
3750	4	32.4	Nelson & Le Moon	49
3750	4	32.4	Wichita Falls Motor Co.	50
3800	4	32.4	Chicago Pneumatic Tool Co.	49
3800	4	32.5	Dart Truck & Tractor Corp.	49
3800	4	32.4	Wilson, J. C. Co.	50
3850	4	32.4	Armleder, O. Co.	49
3880	4	32.4	Menominee Motor Truck Co.	49
3890	4	32.4	Master Trucks, Inc.	49
3900	4	32.4	General Motors Truck Co.	49
3900	4	28.9	Service Motor Truck Co.	50
3900	4	32.4	Velie Motors Corp.	50
3950	4	32.4	General Motors Truck Co.	49
3950	4	32.4	Signal Motor Truck Co.	50
4000	4	28.9	Duplex Truck Co.	49
4000	4	28.9	Old Reliable Motor Truck Co.	50
4150	4	32.4	Diamond T Motor Car Corp.	49
4200	4	32.4	Available Truck Co.	49
4200	4	32.4	Service Motor Truck Co.	50
4250	4	36.1	Fageol Motors Co.	49
4325	4	28.9	Sterling Motor Truck Co.	50
4750	.	....	Couple Gear F. W. Co.	55
4750	4	42	Twin City 4 W. D.	50
6000	4	35	Couple-Gear Freight Wheel Co.	49

4 Ton Commercial Cars.

Price	Cyl.	H.P.	Maker	Page
3500	4	28.9	Union Motor Truck Co.	51
3750	4	32.4	Noble Motor Truck Corp.	51
4200	4	28.9	Winther Motor Truck Co.	51
4250	6	32.7	Parker Motor Truck Co.	51
4375	4	36.1	Moreland Motor Truck Co.	51

5 Ton Commercial Cars.

Price	Cyl.	H.P.	Maker	Page
4400	4	32.4	General Motors Truck Co.	53
4400	4	32.4	Federal Motor Truck Co.	53
4600	4	32.4	Wichita Falls Motor Co.	53
4600	4	32.4	Wilson, J. C. Co.	53

Price	Cyl.	H.P.	Maker	Page
4650	4	32.4	Standard Motor Truck Co.	53
4750	4	32.4	Nelson & Le Moon	53
4750	4	44.1	Oneida Motor Truck Co.	53
4750	4	36.1	Signal Motor Truck Co.	53
4850	4	36.1	United States Motor Truck Co.	53
4900	4	32.4	Denby Motor Truck Co.	52
4950	4	32.4	Diamond T Motor Car Co.	53
4950	4	32.4	Menominee Motor Truck Co.	53
5000	4	36.1	Moreland Motor Truck Co.	53
5000	4	36.1	Old Reliable Motor Truck Co.	53
5000	6	33.7	Parker Motor Truck Co.	53
5000	4	32.4	Service Motor Truck Co.	53
5100	4	26.1	Fageol Motors Co.	53
5100	4	36.1	Sterling Motor Truck Co.	53
5150	4	32.4	Titan Truck Co.	53
5150	4	40	Packard Motor Car Co.	53
5250	4	42	Twin City 4 Wheel Drive.	53
5250	4	36.1	Winther Motor Truck Co.	53

6 Ton Commercial Cars.

Price	Cyl.	H.P.	Maker	Page
5250	4	42	Winther Motor Truck Co.	54
5400	4	32.4	Wichita Falls Motor Co.	54

7 Ton Commercial Cars.

Price	Cyl.	H.P.	Maker	Page
5400	4	40	Packard Motor Car Co.	54
5500	4	42	Winther Motor Truck Co.	54
5900	Electric		Couple Gear Freight Wheel Co.	55
6000	4	36.1	Old Reliable Motor Truck Co.	54

Tractor Trucks.

Price	Cyl.	H.P.	Maker	Page
1850	4	28.9	Ross Motors, Ltd.	55
2100	4	19.6	Lapeer Tractor-Truck Co.	55
2275	4	27.2	Columbia Motor Truck & Trailer Co.	55
2600	4	25.6	Lapeer Tractor-Truck Co.	55
5000	4	28.9	Kuhn Tractor Truck Co.	55

Metropolitan Credit Corporation Organized

NEW YORK CITY, Feb. 8—The Metropolitan Credit Corporation has recently been organized for the purpose of financing domestic and export mercantile credits.

The immediate purpose of the corporation is to meet the great paramount need of today for money with which to provide labor and materials for the work of readjustment at home and reconstruction abroad. It will take a leading part in the rehabilitation of the war-devastated parts of France, Belgium, Russia, Italy and the Balkans, by financing the American manufacturer and builder. The financing of automobiles, trucks and tractors purchased on time payments is one of its fields of operation.

Geo. McIntyre, the company's vice-president, in charge of sales, was until recently general sales manager for the Commonwealth Finance Corporation, New York City. Previous to his connection with the Commonwealth Finance Corporation, Mr. McIntyre was affiliated with the Continental Guaranty Company, N. Y., formerly the Guaranty Securities Company.

The Raybestos Employees Organize Club

The Raybestos Promotion Club is the name chosen by employees of the Raybestos Co., Bridgeport, Conn., for the organization which they have recently formed.

The aims of this club are to broaden the minds, cement friendship and increase the earning capacity of each employee. Members will meet one night a week. It is expected that the membership will soon number 100. S. Simpson, president of the company, has offered his support, both personally and financially, to further the success of the organization.

Mitchell-Selden Sales Co., 2334-6-8 Michigan Ave., Chicago, distributor of Selden trucks, held a special truck show at its salesrooms during show week. The complete line of one- to five-ton trucks was on display.

Hansen to Make Standex Products

CHICAGO, Jan. 20.—V. N. Hansen, who, for the past three years, has been sales supervisor of the Stewart-Warner Speedometer Corp., has resigned to undertake the active management of the Standex Mfg. Corp., which he has organized to manufacture and market motor specialties under the trade name of Standex.

Before joining the Stewart-Warner company, Mr. Hansen was engaged in the manufacture of the V-Ray spark plug.

The first Standex product announced is an automatic lubricating system for Ford cars.

Several Texas Automobile Companies Consolidated

HOUSTON, TEX., Jan. 21.—The Consolidated Motors Co. has been organized here by W. C. Turnbow, an oil operator and cattle raiser. The company has been incorporated for $250,000,000 and will do a general automotive business. It represents the amalgamation of the following concerns: Federal Motor Truck Co., Dwight Automobile Co., Johnson Garage, and Consolidated Repair and Machine Shop, to which has been added a tractor accessory and a tire department.

Scott Corporation Has New General Manager

NEW YORK CITY, Feb. 3.—G. B. Rickenbaugh, who has been connected with the Irving National Bank for the past two years, recently was elected vice-president and general manager of the Scott Corporation. The company deals extensively in automobile accessories in both domestic and foreign fields. It has general offices in Paris and London, the main office being located in Aeolian Hall, New York City.

Improved Highways—the Nation's Need

Foss-Hughes Company Opens a Branch in Scranton, Pa.

SCRANTON, PA., Feb. 5.—The Foss-Hughes Company, of Philadelphia, Pa., well known in this territory as distributors of Pierce-Arrow trucks, recently opened a sales and service station at 922-924 Washington Ave., Scranton, Pa. The new branch is to serve as a distributing center of Pierce-Arrow trucks for Lackawanna, Luzerne, Wyoming and Wayne counties.

The facilities are very complete and modern in every respect, so that prompt and proper service and business transactions are assured. The Foss-Hughes company has been established in Philadelphia for 13 years, during which time it has built a reputation for service in the home town, and in Baltimore, Washington, Reading, Providence and Wilmington, where branches are located.

Management of the new branch is in the hands of Frederick B. Barnitz, one of the best informed automobile men in eastern Pennsylvania. Assisting him are Arthur A. Adler, who has just returned from military life to resume his work in the automotive field, and Eddie McCormick, a well known truck man in this section.

The new branch of the Foss-Hughes company is expected to fill a long felt want in Scranton and the surrounding territory.

Show Managers' Association Re-elects Officers

CHICAGO, Feb. 5.—All officers of the National Association of Automobile Show Managers were re-elected at the annual meeting of the organization. They are: E. E. Peake, Kansas City, president; Bart J. Ruddle, Milwaukee, vice-president; Ray W. Sherman, New York, secretary-treasurer.

How Can I Tell?—Timken Roller Bearing Co., Canton, O. This book explains the construction of friction bearings, and tells where they are most used in motor cars, etc. The chapters include a discussion of Timken principles. The value of Timken bearings is summed up in the final chapter by a series of questions and answers.

Latest Prices of Various Capacities of Gasoline and Electric Commercial Cars—Gasoline and Electric Truck-Tractors Included

This list gives the latest price of each model produced by the manufacturers of Commercial Cars, corrected up to the 1st of each month preceding date of issue. *New prices in this issue are in bold-face type.*

In the department of "New Commercial Cars" will be found particulars concerning new models or changes.

Maker and Model Price

Acme—Acme Motor Truck Co.
1-ton $1950
2-ton 2750
3½-ton 3650
5-ton 4750

All-American—All-American Truck Co.
AA, 1-ton 1295

Atlas—Martin Truck & Body Corp.
19, ¾-ton 1135

Atterbury—Atterbury Motor Car Co.
1½-ton 2575
2-ton 2975
2-ton long w. b.. 3075
3½-ton 3875
3½-ton long w. b. 3975
5-ton 4975

Autocar—Autocar Co.
21F, 1½-2-ton .. 2050

Available—Available Truck Co.
1-ton 2250
2-ton 2950
3½-ton 4200
5-ton 4900

Beck—Beck-Hawkeye Motor Truck Wks.
A, 1-ton 1550
B, 1½-ton 1950
C, 2-ton 2250
D, 3-ton 2650

Bell—Bell Motor Car Co.
G, 1200 lb. 1150

Bessemer—Bessemer Motor Truck Co.
G, 1-ton 1495
H, 1½-ton 1945
J, 2-ton 2490
K, 3½-ton 3450

Bethlehem—Bethlehem Motors Corp.
1½-ton 1965
2½-ton 2365
3½-ton 3465

Brinton—Brinton Motor Truck Co.
H, 1-ton 1500
F, 2½-ton 3000

Briscoe—Briscoe Motor Corp.
B-24, Open b. ... 885
B-24, Closed b... 910

Brockway—Brockway Motor Truck Co.
J2, 1½-ton 2450
K3, 2-ton 2850
R, 3½-ton 3750
5-ton 4850

Chevrolet—Chevrolet Motor Co.
1-ton Chassis ... 1325
1-ton Express .. 1460
1-ton Express with top 1545

Collier—Collier Motor Truck Co.
16, 1¼-ton Speed 1375

Columbia—Columbia Motor Truck & Trailer Co.
E, 2-ton 2350

Comet—Comet Automobile Co.
1¼-ton 1575

Commerce—Commerce Motor Car Co.
E, 1-1½-ton 1625
E, 1½-2-ton 1895

Concord—Abbott-Downing Truck & Body Co.
1½-ton 2450
2½-ton 2850

Maker and Model Price

Conestoga—Conestoga Motor Truck Co.
1800 lb. 1350
1-ton 1850
2-ton 2550

Corbitt—Corbit Motor Truck Co.
E, 1-ton 2000
D, 1½-ton 2400
C, 2-ton 3000
B, 2½-ton 3200
A, 3½-ton 4000
AA, 5-ton 5000

Corliss—Corliss Motor Truck Co.
1000 lb. Chassis.. 715

Dart—Dart Truck & Tractor Corp.
E, 1-ton 2100
CC4, 2-ton 2950
L, 3½-ton 4000

Day-Elder—Day-Elder Motors Corp.
J, ¾-ton 1045
A, 1-ton 1775
B, 1½-ton 2075
D, 2-ton 2450
C, 2½-ton 2750
F, 3½-ton 3450
E, 5-ton 4500

Dearborn—Dearborn Truck Co.
A, 1-ton chain .. 975
F, 1½-ton worm 1980

Defiance—Turnbull Motor Truck & Wagon Co.
1½-ton 1795
2-ton 1995

De Kalb—De Kalb Wagon Co.
E2, 2-ton 2100
2½-ton 2600

De Martini—De Martini Motor Car Co.
A17W, 1-ton 2250
C17W, 2-ton 2750
E17W, 3-ton 3650
G17W, 4-ton 4250

Denby—Denby Motor Truck Co.
12, 1-ton 1650
13, 2-ton 2350
25, 3-ton 3000
27, 3½-ton 4150
210, 5-ton 4900

Diamond T—Diamond T Motor Car Co.
J5, 1-ton 2125
J4, 1½-ton 2550
J3, 2-ton 2925
LB, 3½-ton 4150
R, 5-ton 4950

Dispatch—Dispatch Motor Car Co.
G, 1500 lb. Chassis 1200

Doane—Doane Motor Truck Co.
2½-ton 3500
6-ton 5650

Dodge—Dodge Brothers
1000 lb. 1085

Dorris—Dorris Motor Car Co.
K4, 2-ton 2985
K7, 3½-ton 3800

Double Drive—Double Drive Truck Co.
1½-ton, front wheel drive ... 2500
3-ton, four wheel drive 4000

Douglas—Douglas Motors Corp.
1½-ton 2000

Duplex—Duplex Truck Co.
E, 3½-ton 4000

Maker and Model Price

Durable—Durable Motor Truck Co.
B2-18, 1½-ton .. 2040

Ellsworth—Mills-Ellsworth Co.
25A, 1000-lb. 855

Fageol—Fageol Motors Co.
2-ton 3300
3½-ton 4250
5-ton 5100

Famous—Famous Trucks, Inc.
B-34, ¾-ton 1145
B-10, 1-ton 1690
B-14, 1¼-ton ... 1890
B-12, 1½-ton ... 2250

Fargo—Fargo Motor Car Co.
P, 2-ton 2200

Federal—Federal Motor Truck Co.
S, 1-ton 1900
T, 1½-ton 2350
U, 2-ton 2600
W, 3½-ton 3350
X, 5-ton 4400

Ford—Ford Motor Co.
T, 1-ton 550

F. W. D.—Four Wheel Drive Auto Co.
B, 3-ton 4500

Fulton—Fulton Motor Truck Co.
FX, 1½-ton 1850

Gabriel—Gabriel Motor Truck Co.
C, 1-ton 1950
E, 2-ton 3250
F, 3-ton 4300

Garford—Garford Motor Truck Co.
75C, 1-ton 2500
66B, 1½-ton 3000
66BL, 1½-ton ... 3100
70B, 2-ton 3300
70BL, 2-ton 3400
77B, 3½-ton 4300
77BL, 3½-ton ... 4400
68, 5-ton 5000
68L, 5-ton 5100
69, 6-ton 5300
69L, 6-ton 5400

G.M.C.—General Motors Truck Co.
16, 1500 lb. 1495
21, 1-ton 2025
31, 1½-ton 2395
41, 2-ton 2725
71A, 3½-ton 3750
71B, 3½-ton 3800
101A, 5-ton 4350
101B, 5-ton 4400

Geneva—Geneva Wagon Co.
B, ¾-ton 700
C, ¾-ton 750

Gersix—Gersix Mfg. Co.
G, 2½-ton 3150
H, 2½-ton 3150
K, 2½-ton 3150

Giant—Chicago Pneumatic Tool Co.
15, 1-ton 1850
1½-ton 2250
2-ton 2850
2-ton, long w. b. 2900
3½-ton 3850

Globe—Globe Motor Truck Syndicate, Ltd.
A1, 1-ton 1625
B, 1½-ton 1990
C, 2-ton 2400
CC, 2-ton 2500

Gramm-Bernstein—Gramm-Bernstein Motor Truck Co.

Maker and Model Price

1½-ton 1895
2½-ton 3350
3½-ton 4000
5-ton 5000

Grant—Grant Motor Car Corp.
12, ¾-ton 1125
10 (124 in. w. b.) 1885
11 (140 in. w. b.) 1935
15 (124 in. w. b.) 2150
16 (140 in. w. b.) 2250

Hahn—Hahn Motor Truck & Wagon Co.
B, ¾-ton 1225
C, 1-ton 1950
D, 1½-ton 2225
E, 2-ton 2500
F, 3½-ton 3250
G, 1-ton 1375
H, 2-ton 1950

Hall—Lewis-Hall Iron Works
2-ton 2675
3½-ton 3500
5-ton 4500
5-7-ton 4500

Harvey—Harvey Motor Truck Co.
WFA, 2½-ton .. 3050
WHA, 3½-ton .. 3950
WKA, 5-ton 5050

Hawkeye—Hawkeye Truck Co.
K, 1½-ton 1900
L, 2-ton 2500

Henderson—Henderson Bros. Co., Inc.
Model C 1350
Model D 1750
Model E 1850

Hendrickson—Hendrickson Motor Truck Co.
G, 2-ton 2850
H, 3½-ton 3650

Higrade—Higrade Motors Co.
A17, ¾-ton to 1750 lb. 1850
A18, 1-ton to 2250 lb. 2100

Hoover—Hoover Wagon Co.
1500 lb. 1600
2250 lb. 2250

Hurlburt—Hurlburt Motor Truck Co.
2-ton 3500
3½-ton 4250
5-ton 5250

Independent—Independent Motor Co.
1-ton 1685
2-ton 2250

International—International Harvester Co.
H, 1500 lb. 1550
F, 1-ton 1850
F, 1-ton long w. b. 1900
K, 1½-ton 2200
K, 1½-ton long w. b. 2250
G, 2-ton 2600
G, 2-ton long w. b. 2650

Jones—Jones Motor Car Co.
1-ton 1395

Jumbo—Nelson Motor Truck Co.
2-ton 2500

Kelly-Springfield—Kelly-Springfield Motor Truck Co.
K31, 1½-ton 2750
K32, 1½-ton 2750
K35, 2½-ton 3250
K36, 2½-ton 3250

Maker and Model Price

K40, 3½-ton 4250
K45, 4-ton 4400
K50, 5-ton 4900
P60, 6-ton 5200

Kissel—Kissel Motor Car Co.
General Utility.2073.50
Freighter 2832.50
Heavy Duty ...3905.00
Dreadnaught ..4785.00

Kleiber—Kleiber & Co., Inc.
AA, 1-ton 2400
A, 1½-ton 2650
BB, 2-ton 2950
B, 2½-ton 3500
C, 3½-ton 4100
D, 5-ton 5100

Koehler—H. J. Koehler Motors Corp.
K, 1¼-ton 1450
L, 2½-ton 1985
M, 2½-ton 2785
O, 3½-ton 3400
R, 5-ton 4200

Lane—Lane Motor Truck Co.
G, 1½-ton 2250
H, 2-ton 2975
K, 3½-ton 3900

Lange—Lange Motor Truck Co.
B, 2-ton 2900

Larrabee-Deyo—Larrabee-Deyo Motor Truck Co., Inc.
M, 1-ton 1950
N, 1½-ton 2450
O. P., 2½-ton .. 3000
A, 3½-ton 3950
T, 5-ton 4750

Lippard-Stewart—Lippard-Stewart Motor Car Co.
1500 lb. 1900
1-ton 2250
1½-ton 2850
2-ton 3050

Loyal—Loyal Motor Truck Co.
1000 lb. 865
Sp. 1500 lb. 1025
1-ton 1300

Luverne—Luverne Automotive Co.
2-ton 1800

Maccar—Maccar Truck Co.
L, 1½-ton 2750
L, 2½-ton 3300
M, 3½-ton 4100
U, 5½-ton 5000

Mack—International Motor Co.
1-ton 2400
1½-ton 2800
2-ton 3000
3½-ton 4600
5½-ton 5250
7½-ton 5500

Manly—O'Connell-Manly Truck Co.
30, 1½-ton 2050
40, 2-ton 2350
50, 2½-ton 2800
60, 3-ton 3350

Master—Master Trucks, Inc.
Junior, 1½-ton I. G. 1890
Junior, 1½-ton worm 1990
M, 2-ton 2390
O, 2-ton long. b. 2490
W, 2-ton worm drive 2590
WL, 2-ton worm drive, long w. b. 2690

Maker and Model Price

A, 3½-ton worm. 3890
B, 5-ton worm... 4890

Maxwell—Maxwell Motor Co., Inc.
1½-ton 1085

Menominee—Menominee Motor Truck Co.
1-ton 1890
H, 1½-ton 2475
D, 2-ton 2950
G, 3½-ton 3880
J, 5-ton 4950

Midland—Midland Motor Car & Truck Co.
MT, 2-ton 3000
MS, 2½-ton 3150

Moreland—Moreland Motor Truck Co.
1½-ton 2650
2½-ton 3400
4-ton 4375
5-ton 4725

Muskegon—Muskegon Engine Co.
20, 2-ton 2325

Myers—E. A. Myers Co.
50, 1-ton 1495
55, 1-ton 1460
70, 1½-ton 1750
75, 1½-ton 1700

Napoleon—Napoleon Motors Co.
1-ton 1285

Nash—Nash Motors Co.
2018, 1-ton 1650
3018, 2-ton 2175
Quad, 2-ton 3250

Netco—New England Truck Co.
D, 2-ton 3000
H, 2½-ton 3200

New York—Tegetmeier & Riepe Co.
M, 1½-ton 2600
N, 2-ton 2800

Noble—Noble Motor Truck Corp.
NW, 2½-ton 2675
NW4, 4-ton 3750

Northwestern—Starr Carriage Co.
W2, 2-ton 2950

Norwalk—Norwalk Motor Car Co.
1-ton 1495
1½-ton 1750

OK.—Oklahoma Auto Mfg. Co.
1½T2, 1½-ton ... 2250
2T2, 2-ton 2450
3T2, 3-ton 2985

Old Hickory—Kentucky Wagon Mfg. Co.
1500 lb. 995

Old Reliable—Old Reliable Motor Truck Co.
1½-ton Worm .. 2350
2½-ton Worm .. 3250
3½-ton Worm .. 4000
2-3-ton Chain ... 3250
5-ton Worm 5000
7-ton Chain 6000

Oneida—Oneida Motor Truck Co.
A, 1-ton 2290
B, 1½-ton 2650
C, 2-ton 3000
D, 3½-ton 3700
E, 5-ton 4750

Oshkosh—Oshkosh Motor Truck Mfg. Co.
2-ton 3500

Overland—Willys-Overland, Inc.
800 lb. Panel ... 1000
800 lb. Express.. 985
1200 lb. Express. 1075

Packard—Packard Motor Car Co.
1E, 1¼-ton 2650
1½E, 1¾-ton ... 3000
2E, 2½-ton 3400
3E, 3½-ton 4100
4E, 4½-ton 4450
5E, 5½-ton 5150
6E, 6½-ton 5400

Paige—Paige-Detroit Motor Car Co.
50-18, 2-ton 2950

Maker and Model Price

Palmer—Palmer-Meyer Motor Car Co.
1-ton 1685
2-ton 2495

Panhard—Panhard Motors Co.
1-ton 1195
1½-ton 1395
2½-ton 2350

Parker—Parker Motor Truck Co.
2-ton 3150
3-ton 3700
4-ton 4250
5-ton 5000

Patriot—Hebb Motors Co.
Lincoln, 1½-ton. 2150
Washington 2½-ton 3150

Peerless—Peerless Motor Car Co.
3-ton 4125
4-ton 4150
5-ton 4700

Piedmont—Piedmont Motor Car Co., Inc.
1½-ton 1650

Pierce-Arrow—Pierce-Arrow Motor Car Co.
2-ton 3750
5-ton 5500

Rainier—Rainier Motor Corp.
R5, 1000 lb. 1250
R2, 1500 lb. 1350
R7, 1500 lb. Spec. 1550
R4, 2500 lb. 1595
R6, 3000 lb. 1890
R8, 4000 lb. 2250

Rennoc—Rennoc-Leslie Motor Co.
2½-ton 2895

Reo—Reo Motor Car Co.
1500 lb. 1250

Republic—Republic Motor Truck Co., Inc.
Dispatch, 1500 lb. 1095
Sp., 2000 lb. 1295
10X, 1-ton 1535
11X, 1½-ton 1885
19, 2-2½-ton 2395
20, 3½-ton 3150
V, 5-ton 4750

Reya—Reya Co.
A-18, 1500 lb. .. 995

Riker—Locomobile Co. of America.
3-ton 4600
4-ton 4700

Rowe—Rowe Motor Mfg. Co.
2-ton 3000
2½-ton 3250
GW, 3-ton 4500
3½-ton 3800
5-ton 4900

Royal—Royal Motor Truck Co. of N. Y.
1-ton 2400
1½-ton 2800
2-ton 3200
2½-ton 3500
3½-ton 4200
5-ton 5000
6-ton 5400
7-ton 6500

Sanford—Sanford Motor Truck Co.
W25, 2½-ton 3000
W35, 3½-ton 3975
W50, 5-ton 4750

Schacht—G. A. Schacht Motor Truck Co.
2-ton 3150
2½-ton 3500
3½-ton 3950
5-ton 4950

Schwartz—Schwartz Motor Truck Co.
1½-ton 2175
2½-ton 2675

Selden—Selden Motor Vehicle Co.
TXR, 1-ton 2000
TWL, 1-ton 2200
JCB, 2-ton 2850
JWB, 2-ton 3050
NL, 3½-ton 3850
DL, 5-ton 5000

Maker and Model Price

Service—Service Motor Truck Co.
220, 1-ton 2100
240, 2-ton 3000
270, 3½-ton 3900
275, 3½-ton sp... 4200
300, 5-ton 5000

Signal—Signal Motor Truck Co.
F, 1-1¼-ton 2400
H, 1½-ton 2700
J, 2-2½-ton 3100
JL, 2-2½-ton long w. b. 3175
M, 3½-ton 4100
ML, 3½-ton long w. b. 4200
R, 5-ton 5100

Standard—Standard Motor Truck Co.
70, 2-ton 2800
65, 3½-ton 3675
85, 5-ton 4650

Sterling—Sterling Motor Truck Co.
2½-ton 3300
3½-ton 4325
5-ton 5100
7-ton 5600

Stewart—Stewart Motor Corp.
6, 1500 lb. 950
8, 1-ton 1575
9, 1½-ton 1975
7, 2-ton 2575
10, 3½-ton 3500

Studebaker—Studebaker Corp.
SF, 1000 lb. 1045
1-ton 1400

Sullivan—Sullivan Motor Truck Corp.
F, 1½-ton 2350
E, 2-ton 2850

Superior—Superior Motor Truck Co.
A, 1-ton 1600
C, 2-ton 2200

Texan—Texas Motor Car Assn.
½-ton 1100
1½-ton 1525

Tiffin—Tiffin Wagon Co.
A, 1500 lb. 1100
GW, 1½-ton 2125
MW, 2½-ton 2850
PW, 3½-ton 3760
RW, 5-ton 5000
SW, 6-ton 5200

Titan—Titan Truck Co.
3½-ton 4300
5-6-ton 5150

Tower—Tower Motor Truck Co.
F, 2-ton 2975
G, 3½-ton 4100

Trabold—Trabold Truck Mfg. Co.
TJ, 1-ton 1200

Traffic—Traffic Motor Truck Corp.
4000 lb. 1395

Transport—Transport Truck Co.
50, 2-ton 2585

Triangle—Triangle Motor Truck Co.
1½-ton 2285
2-ton 2850

Twin City Four Wheel Drive—Twin City 4 Wheel Drive Co., Inc.
B, 3½-ton 4750
A, 5-ton 5250

Union—Union Motor Truck Co.
BM, 2½-ton 2375
BL, 2½-ton 2375
C, 4-ton 3500

U. S.—United States Motor Truck Co.
E, 2½-ton 2800
H, 2½-ton 3250
D, 3½-ton 3500
J, 3½-ton 3950
K, 5-ton 4850

Universal—Universal Service Co.
1½-ton 2000
3-ton 3400
3½-ton 3800

Maker and Model Price

Velie—Velie Motor Corp.
24, ¾-ton Special 1700
25B, 2-ton 2950
26B, 3½-ton 3900

Viall—Viall Motor Car Co.
2-ton 2500

Vim—Vim Motor Truck Co.
1000 lb. 945
25, 1-ton 2195
26, ¾-ton 1200
22, 2-ton 3150
23, 3-ton 3950

Walter—Walter Motor Truck Co.
5-ton four wheel drive 5500

Ward La France—Ward La France Truck Co., Inc.
2A, 2-ton 3350
CDS, 3½-ton ... 3750

Wayne—Automobile Mfg. & Eng. Co.
A, 1-ton 1850
B, 2-ton 2900
C, 3½-ton 4100
D, 5-ton 5000

Western—Western Truck Mfg. Co.
7-ton 5700

White—White Motor Co.
GBBE, 1500 lb... 2300
TBC, 1½-2-ton.. 3300
TJ, 3-ton 4100
TG, 5-ton 5000

White Hickory—White Hickory Wagon Mfg. Co.
F, 1-ton 2000
H, 1½-ton 2400

Wichita—Wichita Falls Motor Co.
A, 1-ton 1850
K, 1-ton 2000
L, 1½-ton 2350
B, 2-ton 2500
R, 2½-ton 2950
O, 3½-ton 3750
Q, 5-ton 4600
S, 6-ton 5400

Wilcox—H. E. Wilcox Motor Co.
A, 1-ton 2100
X, 1½-ton 2775
Q, 2½-ton 3250
P, 3½-ton 3950
W, 5-ton 5000

Wilson—J. C. Wilson Co.
1-ton 1750
2-ton 2800
3½-ton 3800
5-ton 4600

Winther—Winther Motor Truck Co.
39, 1½-ton 2100
439, 1½-ton 2100
49, 2-ton 3000
459, 2½-ton 3250
69, 3-ton 3800
79, 3½-ton 4100
479, 3½-ton 4900
89, 4-ton 4200
109, 5-ton 5000
129, 6-ton 5250
149, 7-ton 5500

Wisconsin—Myers Machine Co.
B, 1½-ton 1750
C, 2½-ton 2500
E, 5-ton 5000

Witt-Will—Witt-Will Co., Inc.
WD, 2-ton 2850

Wolverine—American Commercial Car Co.
C, 1½-ton 2180

GAS-ELECTRIC TRUCKS-TRACTORS

Couple Gear—Couple Gear Freight Wheel Co.
5-7-ton 6100-6200
7-10-ton 6700-6800
10-15-ton 7300-7450

GASOLINE TRUCK-TRACTORS

Columbia—Columbia Motor Truck & Trailer Co.

Maker and Model Price

6-ton sh. w. b... 2350

Federal—Federal Motor Truck Co.
3-ton 2500
7-ton 3475

Garford—Garford Motor Truck Co.
70B, 4½-ton 3400
77, 7-ton 4400
68, 10-ton 5100

Knox—Knox Motors Co.
35 5500
36 6000

Koehler—H. J. Koehler Motors Corp.
KT, 3-ton 1750
LT, 5-ton 2165

Kuhn—Kuhn Tractor Truck Co.
5-ton 5000
5-ton dual drive. 5500

Master—Master Trucks, Inc.
6-ton 2650

Rennoc—Rennoc-Leslie Motor Co.
8-ton 2895

Ross—Ross Motors, Ltd.
3-ton Utility 1850

Watson—Watson Wagon Co.
5-ton 4050

ELECTRIC TRUCK-TRACTORS

Couple Gear—Couple Gear Freight Wheel Co.
5-7-ton 4750-4850
7-10-ton 5250-5350
10-15-ton 5900-6000

ELECTRIC COMMERCIAL

Atlantic—Atlantic Electric Vehicle Co.
1-ton 3100
2-ton 3787
3½-ton 4506.25
5-ton 5100
6-ton 6437.50
6½-ton 6590

C. T.—Commercial Truck Co. of America
½-ton 1750
1-ton 2100
2-ton 2500
3½-ton 3650
5-ton 4150

Couple Gear—Couple Gear Freight Wheel Co.
3½-ton Chassis.. 4750
5-ton Chassis ... 5250
7-ton Chassis ... 5900

Lansden—Lansden Co., Inc.
1000 lb. Chassis.. 1815
2000 lb. Chassis.. 2090
4000 lb. Chassis.. 2585
7000 lb. Chassis.. 3025
10,000 lb. Chassis 3465

Walker—Walker Vehicle Co.
M, 1000 lb. 1850
K, 1-ton 2300
L, 2-ton 2600
P, 3½-ton 3600
N, 5-ton 3900
5, 10-ton tractor. 3700
7, 15-ton tractor. 5000

Ward—Ward Motor Vehicle Co.
WS, 750 lb. 1100
WA, 1000 lb. 1600
WB, 1-ton 2100
WD, 2-ton 2600
WF, 3½-ton 3200
WH, 5-ton 4000

GAS-ELECTRIC COMMERCIAL

Couple Gear—Couple Gear Freight Wheel Co.
3½-ton 6100
5-ton 6700
7-ton 7350

Highway Transportation is Dependent on the Roads. Boost!

News of the Trade in Brief

Annual Meeting National Automobile Dealers' Association

CHICAGO, Jan. 29.—The splendid accomplishments in the past had small place at the annual meeting of the National Automobile Dealers' Association, at Chicago, January 28th and 29th. The great work this organization accomplished for the trade during troubled war times was lightly touched upon, and all energies were bent toward shaping the future work of the association that it may be of greatest use to the automobile business in the years to come. The fact that hundreds of passenger car dealers throughout the country are now selling trucks, made the meeting of particular interest to truck manufacturers and distributors, and the importance of trucks was brought out in several addresses during the meeting.

George Graham, chairman of the motor truck committee of the National Automobile Chamber of Commerce during the war, spoke to the delegates on "Getting Back to Normal," and among other things urged the delegates to put the energy of the association back of every good roads project, that trucks and passenger cars might traverse the country from end to end over modern highways. He pointed out the influence of rural motor truck lines on the sales of passenger cars, and created much enthusiasm by his stirring account of some of the things accomplished by motor vehicles during the war period.

John N. Willys, president of the Willys-Overland Company, gave the members of the association a vivid picture of the motorized country of the future, when passenger cars, trucks and tractors will supplant the millions of horses that now eat much grain that ought to be saved for human consumption. Mr. Willys stated that he thought 75 per cent. of the horses of the country could economically be done away with, motor vehicles and tractors taking their places.

Pyke Johnson, of the good roads committee of the National Automobile Chamber of Commerce, advocated that a national highway committee be established, and that a national highway construction plan be formulated, so that the country could build roads along a definite program, with state and local appropriations aiding the national system.

One of the best addresses of the meeting was given by F. W. Fenn, of the rural motor express committee of the National Automobile Chamber of Commerce, who outlined what has been done and what may be expected from rural motor express. In part Mr. Fenn said:

"A great part of our country today is without transportation of any kind except horse and wagon. We furnish transportation for all lines of human endeavor except that of agriculture, which is the most important.

"Every dealer is familiar with the rural motor express, how it serves rural America, bringing more and better food to every man's door, how it keeps the farmer on his farm that he may produce more, how it is opening up the wasted places of our country and bringing them out of their isolation and into quick communication with the rest of the world.

"The rural express is here to stay—and through it the dealer is presented with a most profitable market in which to dispose of his wares—the motor truck. The farmer will eventually become your biggest patron. Cater to him.

"We need motor trucks and good roads if we are to take our place as one of the world's leaders.

"If you are interested in this rural express idea, in giving the farmer transportation and in the creation of a market for the goods you have for sale—a market which will be greater than any you now have—write me at the National Automobile Chamber of Commerce, at 7 East 42nd St., New York, for full plans of organization and methods of operation."

The association has worked out a new plan of organization for the coming year, whereby the country is divided into large districts, each district containing several states and a director of the association, located in the main city of each district, will promote the work of the organization in his district through committees working under him. It is thought that by this means the association can accomplish much better results than by the old method.

Officers Elected for 1919

President F. W. A. Vesper, of St. Louis, was re-elected without opposition, a splendid tribute to the ability and energy with which he has carried on the work of the association during the past year. Other officers are E. W. Steinhart, Indianapolis, first vice-president; Harry D. Austin, of Seattle, second vice-president; Thomas J. Hay, of Chicago, treasurer, and G. B. Kimball, Boston; A. E. Maltby, Philadelphia; A. E. Mitzel, Canton, O.; George D. McCutcheon, Atlanta, Ga.; J. A. Graham, Minneapolis; H. L. Robertson, Houston; P. E. Chamberlain, Denver; W. J. Brace, Kansas City, and P. E. Greer, San Francisco, directors.

Harry G. Moock was named as general manager of the association and he will have active charge of the head offices at St. Louis and of the work of the association during the coming year. Mr. Moock comes from the Rocky Mountain Auto Trade Association and has had excellent experience in organization work that should prove valuable to the national organization in carrying out its pretentious program for 1919.

During the Chicago meeting a handsome silver loving cup was presented to President Vesper for his devoted work, and George Brown, of Milwaukee, hailed as the organizer of the association, was presented with handsomely engrossed resolutions complimenting him for his work in behalf of the organization.

A. A. A. Organizes Truck Division

NEW YORK CITY, Jan. 16.—The organization of a Motor Truck Division by the American Automobile Association portends increased commercial car use in every state in the Union.

The division is getting in touch with clubs, localized motor truck organizations and individuals who have accomplished things in the truck field, and is preparing to announce its full policy in the near future.

Truck developments already under way, such as the Rural Motor Express, the road building movement, etc., will receive the co-operation and help of the bureau.

A Fact Bureau will be established, through which companies interested in motorizing their businesses can obtain data free of charge.

Motor truck conferences in the different states are being planned, and are designed as an educational movement of the economic value of trucks for haulage.

Stedman Bent, president of the Automobile Club of Philadelphia, is chairman of the motor truck board, and John R. Eustis, secretary. George M. Graham, chairman of the motor truck committee of the National Automobile Chamber of Commerce, has also been asked to serve on the board.

Detroit Engineers Sign up New Members

DETROIT, MICH., Feb. 6.—At a recent meeting of the Detroit Section of the Society of Automotive Engineers, reports were given by the various teams engaged in signing up new members. D. M. Kent, patent attorney for the Standard Parts Co., of Cleveland, addressed the meeting. He stated that a great deal of the delay in obtaining patents is due to the fact that the employees of the patent office are overworked and underpaid. He suggested that this should be separated from the Department of the Interior and made a distinct department.

Omaha Will Have a Real Automotive Show

OMAHA, NEB., Jan. 16.—Omaha's fourteenth annual automobile show will be held March 10 to 15.

The whole thought of the Omaha Automobile Trades Association is centered on making this year's show, even with the late start, due to war conditions, the biggest and best in every way of all the shows that have been held here. Therein lies no small problem in one sense.

All the Omaha shows have been staged in the Auditorium, the space capacity of which, although the largest on a single floor in the city, was long ago reached and passed. Last year the show bulged beyond the confines of the building into nearby structures and even in to the streets adjacent, while some dealers who came in late and couldn't get any space at all, staged their own individual shows at the salesrooms.

The trades association is anxious if possible to show every line of automobile industry. Trucks will be exhibited along with passenger car lines. Tractors, accessories, farm lighting systems and the like are considered an essential part of a real automobile show.

Responses from dealers all over the territory, as well as from the public at large, indicate an attendance at the show far surpassing that of any previous year, while dealers are confident that the $5,000,000 business, which was the immediate result of last year's show, will be handsomely bettered by this year's exhibition.

Exhibition of an Ashmusen military biplane will be one of the features of the show. H. Pelton, Marmon and Franklin dealer, has taken the selling agency for the airplane in this territory.

Packard to Exhibit Plane at Detroit Show

DETROIT, MICH., Jan. 31.—Detroit's automobile show, which is to be held March 1-8, will include an airplane exhibit, and the product will be offered to the buying public.

The Packard Motor Car Company, maker of this plane feels the time has come when the airplane will enter the class of general utilities.

The plane will sell for about $15,000, and will be sold through the Packard dealers, the Chicago and Baltimore dealers having already ordered planes.

Trucks and tractors for which space has already been taken are as follows:

Trucks: Acme, All-Power, Baker R & L industrial truck, Columbia, Chevrolet, Clydesdale, Commerce, Dearborn, Smith Form-a-Truck, Denby, Dodge Bros., Federal, Ford, Fruehauf Trailer, Fulton, G. M. C., Graham, Hall, Kelly-Springfield, Lapeer, Mack, Master, Maxwell, Nash, Packard, Paige, Pierce-Arrow, Republic, Service, Signal, Standard, Stewart, White, Winther and Wolverine.

Tractors: Cleveland tractor, Fordson tractor and R & P tractor.

Dealers Pleased With Results of Los Angeles Show

LOS ANGELES, CAL., Jan. 16.—A total floor space of 146,000 sq. ft. was given over to the exhibition of passenger cars, trucks, tractors and accessories, staged this week at Los Angeles. More than 200 passenger cars, representing fifty different makes, fifty-nine trucks of fifteen different makes, two tractors and fifty-two accessories were displayed.

Dealers invested a large amount of money in decorations, but entertainment features were lacking, the show committee being of the opinion that there was a better chance of selling cars to a crowd who came to see the cars themselves rather than to a crowd that came to be entertained. The public responded enthusiastically to this attitude on the part of the dealers, and numerous sales were made during the show.

Slides to Advertise Trucks at Baltimore Show

BALTIMORE, Feb. 5.—The Show Committee of the Baltimore Automobile Dealers' Association has made arrangements with a Baltimore concern to erect a suitable screen at the Automobile Show, for the purpose of exhibiting stereopticon slides, advertising commercial vehicles handled by commercial dealers in Baltimore, members of the Baltimore Automobile Dealers' Association.

The stereopticon machine will be operated on the screen four afternoons, from 3 to 4.30 P. M., and five evenings, from 8.30 to 10 P. M.

Hartford Show to Include Trucks

Motor trucks, trailers and tractors will play an important part in the annual show of the Hartford Automobile Dealers' Association which is to be held in the state armory on Broad street the week of February 22 to March 1. A separate section for trucks and tractors will be set aside in the basement and, weather permitting, demonstrations will be given outside the building.

Tractors to be Chief Attraction at Northwestern Automotive and Industrial Exposition

MINNEAPOLIS, MINN., Feb. 4.—There will be 35,000 sq. ft. of floor space at the Northwestern Automotive and Industrial Exposition devoted solely to tractor exhibits. Trucks, accessories and power-operated household appliances will come in for their share of attention. In addition to the exposition, conventions will be held during the week of Feb. 15-22. The Farmers' Grain Dealers' Association will meet at Minneapolis, and the Retail Hardware Dealers' Association at St. Paul.

Norfolk to Have Auto Show in March

NORFOLK, NEB., Jan. 18.—At a recent meeting of automobile men here, it was decided to hold a show on March 19, 20, 21 and 22. The Norfolk Automobile Show Association has been organized with A. W. Breyer, chairman, and Frank H. Beels, secretary.

Trucks as well as passenger cars will be on display, and there will also be exhibits of accessories. Dealers are enthusiastic, and are doing all in their power, with co-operation of manufacturers, to make their program successful.

Clark "Movies" a Feature of Exhibits at Shows

BUCHANAN, MICH., Jan. 26.—The Clark Equipment Co., manufacturer of disc steel wheels, internal gear axles and locking differentials for trucks, showed at the Chicago and New York automobile and truck shows an interesting series of industrial films portraying the actual processes of manufacture in its plants. The films show the working of electric furnaces, pouring of molten steel, the forges and hammers, and are of interest to those engaged in automobile manufacture or assembly.

The films were shown at the Hotel LaSalle in Chicago, and the Waldorf in New York as supplementary exhibits to the disc wheels and axles displayed at the regular shows.

Louisville Show in February

LOUISVILLE, KY., Jan. 17.—Louisville dealers have secured the Armory building for their automotive show to be held during the week of February 17 to 22. Trucks and tractors will be exhibited as well as passenger cars.

Prince Wells, president of the Louisville Automobile Dealers' Association, has named the committees for the show; and plans are under way to make this the most successful show ever held in Louisville.

Portland Show Dates Set

PORTLAND, ORE., Jan. 30.—The annual show staged by the Dealers' Motor Car Association of Oregon, will be held this year in the Auditorium, February 24-March 1. A floor space of 40,000 sq. ft. is available and it is expected that thirty-five trucks, twenty tractors and 100 passenger cars will be shown. M. O. Wilkins is manager.

Wellman-Seaver-Morgan Co., Cleveland, Ohio, has opened a San Francisco office at 415-17 Rialto Bldg., in charge of Norman S. Ross. He will have charge of business in California, part of Nevada, lower California and Josephine, Jackson and Klamath counties in Oregon.

Judge Hand Upholds Goodyear Policy in Case of Harold P. Baran Against That Company

NEW YORK, Jan. 31.—Following the trail blazed by Federal District Court Judge Waddill, of the Eastern District of Virginia, a few weeks ago, quashing the indictment against Colgate & Company, Judge Hand of the U. S. Court for the southern district of New York, has just handed down a decision in favor of the Goodyear Tire & Rubber Company which fully upholds a producer's right to refuse to sell price-cutters.

Judge Hand's decision, which is in complete agreement with that of Judge Waddill, goes far to determine the law for the whole country, unless or until reversed by the Supreme Court, in what is, in fact, pioneer litigation. Judge Hand holds that the Supreme Court, in its many interpretations of the Sherman Act, has never passed upon the right of refusal to sell and also argues that the exercise of the right, by an individual producer, in no wise conflicts with the Clayton Act.

For a number of years the Goodyear Tire & Rubber Co. has maintained a policy of distributing its products through service station dealers. The company maintains that it has the right to select dealers best fitted to its system of advice to customers and free service. The plaintiff in this case, a Goodyear dealer, has signed an agreement whereby he agreed to merchandise Goodyear tires in accordance with the Goodyear service station policy. Investigation showed that he was not adhering to the intent of the agreement and he was dropped from the list of Goodyear dealers. He brought suit for damages against the company to recover on two causes of action, the Sherman Act and the Clayton Act, claiming that the company by its policy was attempting to monopolize and restrain trade. To this complaint the Goodyear people immediately filed a demurrer, which was sustained by Judge Hand of the United States District Court. Judge Hand's opinion states: "It is impossible to see how a single person may choose one customer or reject one customer without impropriety and not separately selecting or rejecting a number of customers with equal freedom. The first cause of action presents no facts showing a violation of the Sherman Act and the demurrer is to be sustained." He further claimed that there was nothing in the complaint to show how the alleged discrimination might substantially lessen competition and it certainly could not tend to create a monopoly. Therefore, there was no basis, as far as he could see, for the second cause of action claiming violation of the Clayton Act. In short, the Goodyear policy contains no unreasonable agreement nor does it substantially lessen competition. It is selecting its own customers "in bona fide transactions and not in restraint of trade."

Bosch Magneto Company Now American Bosch Magneto Corporation

The American Bosch Magneto Corporation has taken over the entire holdings and organization of the Bosch Magneto Co., including the Bosch works at Springfield, which comprises 250,000 sq. ft. in the buildings alone, and employs 1500 operatives; the complete service and selling systems throughout the United States, and the total ownership and control of Bosch patents that are active in the United States, besides 35 European and Canadian patents.

The American Bosch Magneto Corporation will continue to produce Bosch ignition systems without interruption.

The officers of the new company are: A. T. Murray, president; George A. MacDonald, vice-president and treasurer; A. H. D. Altree, vice-president; Leon W. Rosenthal, vice-president; J. A. MacMartin, secretary and assistant treasurer.

The directors are: A. T. Murray, H. C. Dodge, Martin E. Kern, Duncan C. Holmes, George A. MacDonald, Philip L. Spalding, Henry N. Sweet, H. B. Benedict, C. H. Dwinnell.

Mr. Murray, president and director of the new company, is also president of the Bethlehem Motors Corporation, of Allentown, Pa. Besides managing the magneto corporation, Mr. Murray will continue as the active head of the Bethlehem Motors Corporation.

General Motors Organizes Acceptance Corporation

NEW YORK, Feb. 1.—In order to make financial provision for the needs of automobile dealers, manufacturers and those associated with them in the trade, General Motors Corp. has organized the General Motors Acceptance Corporation, with a capital of $2,500,000. This organization has been the subject of favorable comment in financial circles, since it will afford another medium for the promotion of a business which the bankers have been urging on a more extensive scale since the beginning of the war. J. A. Haskell is to be president of the new organization; Paul Fitzpatrick, vice-president and general manager; and Alfred H. Swayne, vice-president and financial manager. Offices of the corporation are to be in the General Motors Corporation building, at Broadway and 57th St.

Redden Undertakes Tractor Project

C. R. Redden, engaged two years in manufacture of truck attachments, is now identified with the Kill Toil Farm Tractor Corp., a concern recently organized to make tractors. Byron L. Baker, formerly with the J. I. Case Threshing Machine Co., and at one time with the Advance-Rumely Co., will be associated with him in the tractor project.

The Torbensen Axle Company Evidences Remarkable Growth in Sixteen Years

V. V. Torbensen, president of the Torbensen Axle Co., of Cleveland, Ohio, in an article published in *Internal Opinion*, house organ of the company, outlines the development of the company and its axle from 1902 to the present year. "The Torbensen Axle, Past and Present," is the title of the article, in which Mr. Torbensen tells how the output of the company increased from 31 rear axles in 1912, to 24,484 rear and 4,482 front axles in 1917.

Mr. Torbensen points out, in this article, the difficulties which the pioneer in the axle-building field encountered. It was necessary for the company to buy the engines, transmissions, chassis, etc., and assemble a truck in order to sell its axle.

He tells how system was an important factor in the success of the company, enabling each man employed by the company at the present time to accomplish work which required the efforts of several men in 1912.

The increase in the demand for trucks, which, of course, meant an increase in demand for internal gear drive axles, Mr. Torbensen says, was not due wholly to war demand, but to the "gradual realization that the automobile truck was the economical thing—the constructive thing—the thing that will cut costs and reduce profits over horse-drawn vehicles."

Packard Organizes New Department

All the local hauling problems of one commodity in various sections of the country are combined in the problems of a company doing national hauling. About all that is common is the nature of the products carried. With these facts in mind the Packard Motor Car Co. has organized a department to serve the transportation requirements of what is known as national business. The men in charge of this are Packard men of wide experience, and include C. Harrington, vice-president of distribution for the Packard Motor Car Co. of New York.

Cassidy to Market Gredag

The Acheson Graphite Co., of Niagara Falls, has announced that negotiations have been completed whereby Edward A. Cassidy Co. is to act as the sales department for Gredag.

Gredag is a lubricant which was perfected by Dr. E. G. Acheson. It is a blending of the grease with 99.9 per cent. pure Acheson-Graphite (not mined), and is manufactured by the special Acheson formulas and processes.

Plans are now under way and will shortly be executed for a progressive and far-reaching sales and advertising campaign.

Convention of National Foreign Trade Council to be Held in Chicago

NEW YORK CITY, Jan. 16.—The National Foreign Trade Council will hold its Sixth National Foreign Trade Convention at the Congress Hotel, Chicago, on Thursday, Friday and Saturday, April 24, 25 and 26.

The convention in April will deal with Foreign Trade as a Factor in Stabilizing American Industry—problems involving the conversion of war industries to the needs of peace; development of our foreign trade to provide employment for our soldiers, sailors, and war workers; and the formation of a definite policy dealing with the future of our new shipping.

General sessions with prepared papers by leading authorities, followed by discussion; group sessions, consisting mainly of discussion, in which the special interests of different types of business are treated, and individual conferences with government representatives and trade advisers are attractive features of the program.

It is expected that the attendance this year will be unusually large. There is a growing realization throughout the country that foreign trade is essential to continued prosperity, and many concerns are turning to the foreign field for the first time. For these the convention offers an unusual opportunity to profit by the experience of older export firms and to learn the general policies of the country in respect to foreign trade.

Hall Heads New Bethlehem Export Corporation

H. B. Hall, president and general manager, Chicago Bethlehem Sales Co., distributor of Bethlehem motor trucks in Chicago territory, has resigned to become president of the Bethlehem Motors Export Corporation, New York City, formed to market Bethlehem trucks in foreign countries.

Mr. Hall will continue to be interested in the Chicago Bethlehem Sales Company, although the presidency and general managership will be relinquished to Ezra C. Bull, formerly vice-president of the Hudson Motor Car Co., New York City.

1918 Imports Ahead of 1917 in Value

WASHINGTON, Jan. 30.—According to a report sent to the Bureau of Foreign and Domestic Commerce, our imports for the eleven months ending with November, 1918, were valued at $2,821,000,000, while those of the corresponding eleven months of 1917 were $2,725,000,000. The $5,633,000,000 of exports for the same period of time for 1917 slightly exceeds the $5,585,000,000 of 1918. The total value of the imports of 1918 is placed at $3,000,000,000, and the exports at $6,000,000,000.

Goodyear Expanding Export Department

AKRON, OHIO, Feb. 10.—The Goodyear Tire & Rubber Company, Akron, Ohio, is greatly expanding its export department, preparatory to its resumption of business in many parts of the world, where shipments could not be made on account of war conditions.

C. L. Diers, formerly manager of the Indianapolis district, has been made manager of the European division of the export department. This division covers all Goodyear activities in Europe, Asiatic Russia and the northern coast of Africa.

C. H. Williams, formerly manager of the Chicago branch, has been appointed manager of the Far Eastern division, which covers the Philippines, China, Japan, Java, Siam, India and Eastern Russia.

A. G. Cameron, who for several years has been branch manager at St. Louis, becomes manager of the Australasian division, with territory embracing Australia, New Zealand and South Africa.

Executive administration of the Goodyear export organization will be handled from the head offices at Akron, Ohio, where the men just appointed to these posts will be located. However, they will periodically cover their respective territories in person, to further familiarize themselves with merchandising conditions.

U. S. Consuls Should Know Foreign Trade

Commercialize the consulates.

E. G. Willems, of Detroit, foreign sales representative of Dodge Bros., makes this suggestion as one of the most important steps toward a great and permanent extension of America's foreign trade.

"At first glance the phrase, 'commercialize the consulates' may seem somewhat harsh," said Mr. Willems, "but, as analysis should prove, the underlying thought can hardly be regarded as offensive even to the most sensitive mind—at any rate not to a mind interested in establishing markets for United States goods abroad.

"My idea is that America's foreign consuls should be selected with as much consideration for their ability to handle affairs of commerce as for their ability to handle formal affairs of state. They should, in fact, be regarded as commercial ambassadors."

Mr. Willems also lays great emphasis on the necessity for some tangible government program for the merchant marine, and upon the need of banking facilities.

"I am greatly encouraged by the attitude of some of our largest American banking institutions," he said. "Our success abroad will always be limited until we have American banking facilities in every foreign market center. Judging from present indications we have every reason to look forward to this as a reality rather than a vague hope of the far distant future."

Norwegian-American Exhibition at Christiania

WASHINGTON, Feb. 1.—According to a circular sent out by the "Norges Handels og Sjefartstidende," (Norwegian shipping and mercantile gazette), efforts are being made to hold an exposition in Christiania of American-made goods in the summer of 1919. The American minister at Christiania writes that he considers the idea an excellent one, as since the outbreak of the war Norway has come into closer commercial relations with America and undoubtedly a considerable portion of the trade that formerly went to other countries has been diverted to the United States. An exposition of the nature proposed will do much toward developing and maintaining trade relations with the United States.

The circular letter, which was sent out to commercial firms and manufacturers in Norway, says, in part:

In order to give a comprehensive survey of the present commercial relations and to form further connection between the United States and Norway, it is our intention to organize a Norwegian-American Expedition in Christiania in 1919.

We have accordingly secured the Tivoli exposition grounds on which to hold the exhibition. The date will be determined later.

It is intended that the exhibition will include all branches.

Catalogues Desired for American Consulates in Belgium and Portugal—The following cablegram has been received from the American consul at Brussels, Belgium: "Please send immediately for Central Committee of Belgian Industries co-operating with Government, catalogues and trade journals for electrical machinery, belting, tanned leather, machine tools, all kinds of articles for reconstruction, automobiles, motors, hardware, woolen and cotton cloth, haberdashery, shoes, coal, tar, dyes, paints, etc.; should be sent to American consulates in Belgium." Consul General W. L. Lowrie reports from Lisbon, Portugal, that catalogues of all descriptions are urgently required by the consulate general.

The Engineering Index Now Conducted by A. S. M. E.

NEW YORK CITY, Jan. 19.—*The Engineering Index*, published for 25 years in *The Engineering Magazine* and its successor, *Industrial Management*, and universally regarded as the standard index to engineering periodical literature, has been acquired by The American Society of Mechanical Engineers, and hereafter will be edited and published by this Society. The first issue of the Index under its new management appeared in the January number of the Journal.

Coming Events

SHOWS

February 15 to 22—**Minneapolis, Minn.** Automobile and Tractor Show. Walter B. Wilmont, Mgr.

February 15 to 22—**Newark, N. J.** Passenger Car and Truck Show. Claude Holgate, Mgr., 22 Washington Pl.

February 15-22—**Albany, N. Y.** Auto Dealers' Assn. Passenger Cars and Trucks. Show at State Armory.

February 17-22—**Grand Rapids, Mich.** Motor Truck Show. Klingman Bldg.

February 17-22—**Louisville, Ky.** Auto Dealers' Assn. Show; Passenger Cars, Trucks and Tractors. Prince Wells, Mgr.

February 18-22—**Wichita, Kans.** Annual Midwest Tractor and Thresher Show. Wichita Tractor and Thresher Club. Forum.

February 18 to 22—**Baltimore, Md.** Show in Fifth Regiment Armory, under auspices of Baltimore Auto Dealers' Assn. and Auto Club of Maryland. H. M. Lucius, Mgr.

February 18 to 22—**Oklahoma City, Okla.** Automotive Show, under auspices of Farm Power Equipment Club. Ray Haun, Mgr.

February 22 to March 1—**Hartford, Conn.** Auto Dealers' Assn. Automobile Show. B. F. Smith, Mgr.

February 24-27—**South Bethlehem, Pa.** Truck Show. J. L. Elliott, Mgr.

February 24 to March 1—**Kansas City, Mo.** National Tractor Show, under auspices of Kansas City Tractor Club. Guy H. Hall, Mgr., Sweeney Bldg.

February 24 to March 1—**Kansas City, Mo.** Motor Car Dealers' Show at Convention Hall; Passenger Cars, Commercial Cars and Accessories. E. E. Peake, Mgr.

February 24 to March 1—**Springfield, Mass.** Automobile Dealers' Assn. Show: Passenger Cars and Trucks. Harry W. Stacy, Mgr.

February 24-March 1—**Portland, Ore.** Dealers' Motor Car Assn. 10th Annual Automobile Show in Auditorium. Passenger Cars, Trucks and Tractors. M. O. Wilkins, Mgr., 312 Commonwealth Bldg.

March 1 to 8—**Detroit, Mich.** Auto Dealers' Assn. Eighteenth Annual Auto Show. Crosstown Bldg. Passenger and Commercial Cars, Tractors and Accessories. H. H. Shuart, Mgr., Hotel Statler.

March 3 to 8—**Bridgeport, Conn.** Automobile Show, under auspices of the State Guards. Pleasure Cars, Motorcycles and Automotive Equipment at Armory; Trucks and Tractors at Casino. B. B. Sleeber, Mgr.

March 3 to 8—**Columbus, Ohio.** Automobile Show at Memorial Bldg. W. W. Freeman, Mgr.

March 6-7-8—**Little Rock, Ark.** 2nd Annual Auto Show at Liberty Hall, including Passenger Cars, Trucks. Tractors and Automobile Accessories. Frank L. Reid, Mgr.

March 10 to 15—**Omaha, Neb.** Fourteenth Annual Automobile Show. Under auspices of Omaha Automobile Trade Assn. Trucks and Tractors will also be shown. Clarke G. Powell, Mgr., 2051 Farnum St.

March 10 to 15—**Syracuse, N. Y.** Automobile Show; Passenger and Commercial Cars; Accessories; Space for Tractors. H. T. Gardner, Mgr.

March 15 to 22—**Harrisburg, Pa.** Automobile Show in Overland-Harrisburg Co.'s building, 26th & Derry Sts. J. Clyde Myton, Mgr., P. O. Box 361.

March 17-20—**Philadelphia, Pa.** Motor Truck Show; auspices, Motor Truck Assn. Commercial Museum.

March 19-22—**St. Joseph, Mo.** Automobile Show: Passenger Cars, Trucks, Tractors and Accessories. John Albus, Mgr.

March 19-22—**Norfolk, Neb.** Show by Norfolk Auto Show Assn. Passenger Cars, Trucks and Accessories. A. W. Breyer, Chairman.

April 5 to 12—**Montreal, Canada.** Victoria Rink. Show; Passenger and Commercial Cars, Motorcycles, Motor Boats, Aeroplanes, Accessories, Tractors and Farm Lighting Outfits. T. C. Kirby, Mgr., Windsor Hotel.

April 8 to 12—**Brooklyn, N. Y.** Motor Vehicle Dealers' Assn. Show. I. C. Kirkham, Mgr., 1365 Bedford Ave.

April 14-21—**Bristol, Va.-Tenn.** Great Southern Automobile Show. Auspices Bristol Chamber of Commerce. Cars, Trucks, Tractors, Trailers, Accessories, Farm Implements, Airplanes. C. W. Roberts, Mgr.

MEETINGS

February 19—**New York City.** Monthly Meeting Motor Truck Assn. of America, 247 W. 54th St., 8 P. M.

February 19—**Cleveland, Ohio.** Commercial Car Dealers' Assn. Meeting. Geo. K. Wadsworth, Sec., 1316 Woodland Ave.

February 20—**Cleveland, Ohio.** Meeting Automotive Metal Wheel Assn. Hotel Statler.

February 21—**Philadelphia, Pa.** Automobile Accessories Business Assn. Meeting at Philadelphia Auto Trade Assn. rooms. Albert Stillwag, Sec.

February 22—**Saginaw, Mich.** East Michigan Pike Association Meeting. Board of Commerce.

February 25-28—**New York City, N. Y.** American Road Builders' Assn. 16th Annual Convention. Hotel McAlpin.

April 11 and 12—**Philadelphia, Pa.** National Assn. Motor Truck Sales Managers. Meeting.

April 24, 25, 26—**Chicago, Ill.** National Foreign Trades Council; 6th Convention; Congress Hotel. O. K. Davis, Sec., 1 Hanover Sq., New York City.

June 4, 5, 6 and 7—**Hot Springs, Va.** Automotive Equipment Assn., formerly Nat. Assn. Automobile Accessory Jobbers. Meetings.

Buda to Exhibit Three New Engines at Tractor Show

HARVEY, ILL., Feb. 4.—The Buda Co. announces that it will exhibit at the Kansas City Tractor Show three new types of heavy duty tractor engines of the same general design as the 4¼ x 5½-in. engine, which made the 103-hour, non-stop run, burning kerosene as fuel, at the National Tractor demonstration at Salina, Kansas, last summer.

The largest engine of the new types is a 4-cylinder, bore 5 x 6½-in. stroke engine, having a piston displacement of 510.5 cu. in. The third type, which is 4½ x 6 in., will show a piston displacement of 381.7 cu. in.

All three types have the cylinders cast en bloc, with removable type cylinder head. Lubrication will be of the full pressure type.

It is claimed for these engines that they will be especially adaptable for multiple plow work in new soil, large acreage and the heaviest kind of farm work, using low grade or heavy fuels.

The Buda company has been consistently applying all its energies during the past few years to the development of truck and tractor engines.

An exhaustive investigation was made among various tractor manufacturers who have indicated the size tractor and the size engine, which in their opinion, would be generally required.

At the present time a four-story addition to the big plant at Harvey is being transformed into a progressive engine assembly plant.

Petry Will Handle Baldwin Products

PHILADELPHIA, Jan. 16.—By arrangement with the Baldwin Chain & Mfg. Co., Worcester, Mass., manufacturer of detachable bicycle chain, machinery block chain and transmission roller chain and sprockets, the N. A. Petry Co., Inc., 1307 Race St., Philadelphia, Pa., will hereafter invoice all Baldwin products direct to their customers

The Petry Co. carries at its Philadelphia warehouse, a large assorted stock of chain and sprockets, and shipments will be facilitated by this arrangement. Truck, tractor and converted auto truck chains and sprockets are kept in stock by the Petry Co., and the new arrangement will insure prompt shipments.

Caterpillar Tractor Back on the Job

PEORIA, ILL., Feb. 10.—After a four years' absence from the commercial field Caterpillar tractors are again being manufactured for agricultural and industrial uses.

Holt will exhibit the 5-ton, 18 hp., and the 10-ton, 45 hp. Caterpillar at the Kansas City Show. The 10-ton, 45 hp., and 15-ton, 75 hp. models are ready for immediate delivery. The factory is still working on some military contracts. As soon as these are completed other sizes will be available.

The Holt plant was doubled in size several times during the progress of the war. Manufacturing methods have been placed on a highly efficient basis and volume production insures ample stocks of all models by midsummer.

Big Motor Merger Planned

DETROIT, MICH., Feb. 5.—If arrangements now under way reach a successful conclusion, N. A. Hawkins, former sales manager of the Ford Motor Company, is to be head of a great consolidation of concerns making motor cars, trucks, tractors and their parts. Although the companies are not so large as those involved in the General Motors Consolidation, the scope of the project is not unlike it. The Commerce Motor Car Co. may be one of those included in the merger.

Turnbull Elects Officers

DEFIANCE, OHIO, Feb. 1.—At the annual meeting of the Turnbull Motor Truck & Wagon Company, recently, A. F. Mitchell, vice-president of the Northern National Bank of Toledo, was elected president. He succeeds W. O. Allen, general manager of the Allen Motor Car Co., of Fostoria, Ohio, who continues as a member of the board of directors.

Other officers named are R. G. Holgate, vice-president of the Merchants' National Bank, Defiance, vice-president; Charles C. German, Defiance, treasurer and general manager; L. J. Spafford, secretary; W. L. Krapp, general sales manager; George A. Wieland, advertising manager, and H. K. Reinoehl, chief engineer.

Service Declares Dividend.—The Service Motor Truck Co. has declared a six per cent. dividend, payable to stockholders of record December 31, 1918. This makes a total of fifteen per cent. for the year just closed.

Chief Motor Corp., Port Huron, Mich., has recently secured a charter in the United States. This supersedes the Canadian charter formerly held by the company, under which it operated as the Chief Motor Co., Ltd. This company makes engines for trucks and tractors.

Urge Increased Food Production at Farmers' Convention

Moving Pictures Show Practical Application of Rural Motor Express Idea

TRENTON, N. J., Jan. 14—The benefits that the farmer will derive through the establishment of Rural Express lines, and how the construction of good roads will make possible the transportation of farm products from sections heretofore unserved by common carriers, as well as the need of increased production, were explained by C. A. Musselman, of the Highways Transport Committee of the Council of National Defense, at a convention of farmers here tonight.

He appealed to their patriotism, stating that this country was pledged to supply the Allies 20,000,000 tons of food, which meant that upon the shoulders of the farmers of America would fall the enormous responsibilities which come with victory. After pointing out the relation of food to the wage scale, and how food is the balance wheel of civilization, the speaker said that the greatly needed increase in food must be obtained practically without increased facilities, but by more energetic and more efficient production.

Much of the food would be obtained through a conservation of the waste of perishables, 50 per cent. of which never reaches the market and consumer. Lack of transportation, inability of the common carriers to supply proper service and embargoes, have been responsible for much of the waste which would be converted into profits for the farmer by the establishment of Rural Express routes which would make possible placing the farm in direct touch with consuming centers.

The farmer is not to be asked to solve his problems alone, said the speaker. The greatest problem is transportation—getting farm products to their destination. At the present time transportation is confined to 1500 miles of inland waterways, 350,000 miles of railways and 2,000,000 miles of highways. The common carriers having fixed locations do not benefit the farmer not adjacent to them; that is, in the majority of instances. The railways may be compared to ribbons and the highways to nets, one crossing and the other covering.

By utilizing the highways and byways for transportation and joining all these veins with the arteries which are the railways and waterways, it will be possible to market that which was formerly wasted and to take care of increased production. The speaker cited how sections in Maryland were linked up with the city through motor truck service; how a large number of farmers turned waste into profits and how it was possible for New Jersey to benefit by similar methods.

The effect of Rural Express on good roads was explained by the speaker. He said that they are worth all they cost, that they would increase property values and that they should endure for as long a period as the bond issues call for. It was also told how the States and Government are to expend millions of dollars in constructing good highways so that the rural districts may have access to the established highways, terminals and markets. The vastness of the Rural Express project is indicated when it is considered that one-quarter of the population live on farms, and these 25,000,000 are to be relied upon, not only to feed the other 75,000,000 in this country, but millions in Europe.

The functioning of the Rural Express was demonstrated by moving pictures, which were explained by Mr. Musselman, who in conclusion made an earnest appeal to those present to aid the Government by increasing production.

Oil Output in 1918 Greatest in History of United States

Preliminary estimates by the United States Geological Survey, Department of the Interior, indicate that the quantity of petroleum marketed from oil wells and field storage tanks in the United States in 1918 amounted to 345,500,000 barrels, an apparent gain of 3 per cent. over the former record output of 335,315,601 barrels, established in 1917.

The output in 1918 includes no less than 6,500,000 barrels of crude oil removed from field storage during the year. The surface reserve of crude oil held by oil producers and pipe-line companies in the United States at the end of 1918 is estimated at 123,000,000 barrels, compared with 150,000,000 barrels at the end of 1917.

The output is apportioned among the major fields as follows:

Field.	1917	1918
Appalachian	24,932,205	25,300,000
Lima-Indiana	3,670,295	3,100,000
Illinois	15,776,860	13,300,000
Oklahoma-Kansas	155,043,596	139,600,000
Central & north Texas	10,900,646	15,600,000
North Louisiana	8,561,963	13,000,000
Gulf coast	26,087,587	21,700,000
Rocky Mountain	9,199,310	12,600,000
California	93,877,549	101,300,000
Alaska and Michigan	10,300	.....
Total	335,315,601	345,500,000

Gramm-Bernstein Reduces Truck Price

LIMA, OHIO, Jan. 20.—Gramm-Bernstein Motor Truck Co. has reduced the price of its 1½-ton truck. The price is now $1895. The truck has been selling at $2450.

Nation-Wide Campaign for Better Packing and Marking of Express Shipments

A nation-wide campaign to put an end to the waste attributed to inadequate packing, wrapping and marking of express shipments has been inaugurated by the American Railway Express Company, which is handling the express business on all the railroads of the country.

No new packing or marking rules have been adopted for the campaign, but express drivers and receiving clerks in the larger cities, as well as express agents in the smaller points, have been instructed hereafter to request that the rules already in force be more carefully observed.

A determined effort will be made during the campaign to eradicate what is known as the "No Mark" evil. From July 1 to November 30 of last year, 127,859 shipments, an average of about 25,500 a month, were turned over to the "No Mark" Bureaus maintained by the company, because all means of identification of either shippers or consignees had been lost, and delivery, except in a few cases, made impossible. Personal baggage, hardware and automobile tires comprise the largest proportion of the "No Mark" shipments, which are attributed largely to the failure of the shippers to mark clearly and to pack their goods substantially. With the help of the shippers and through the influence of the campaign, the express company hopes to solve this problem.

"Start Your Shipments Right," is the title of a folder prepared by the American Railway Express Company, giving instructions on crating and packing.

Packard Announces New Contest

Its efficiency test of last summer proved to the Packard Motor Car Co. the possibility of saving to American business men operating trucks the sum of $300,000,000 yearly. It has inaugurated another similar contest which started February 1 of this year and will end January 31, 1920. Packard trucks are eligible and cash awards aggregating $17,640 are offered drivers, shipping clerks and accountants. According to the rules entrants shall be Packard trucks only. Change of ownership and change of drivers, except in specified cases, shall disqualify the truck. All data must be submitted monthly to the Packard factory on the National Standard Cost System forms. Entrance blanks may be obtained from Packard dealers.

Starkweather-Snook Corp., Fort Madison, Ia., manufacturer of the S. & S. shock absorber, announces the opening of a branch warehouse in Chicago at 1402 South Michigan Ave. Chas. Snook is in charge. A complete stock of S. & S. shock absorbers will be carried at the Chicago branch.

Government-Trained Drivers and Truck Legislation Discussed at M. T. A. Meeting

Dealers Warned Regarding Drastic Bills Affecting Motor Truck Industry and Urged to Combat Them

NEW YORK, Jan. 22.—How the Government selected its drivers of motor trucks for service here and abroad was interestingly described by Captain E. O. Buhler, U. S. A., at the monthly meeting of the Motor Truck Association of America, Inc., at the Automobile Club of America. He said that the tests proved 90 per cent. correct and were adopted after the Government had transported many "expert" drivers who not only fell down on the job but seriously impaired the efficiency of the transportation.

After describing how the personal adjutant indexed the drafted men and how those claiming driving experience were separated from the 150 odd trades, the men were subjected to three tests, oral, picture and performance. The oral examination followed conventional practice as did the picture test, the men being examined as to their knowledge of the components of the truck, etc.

Drivers Disciplined

The performance test was the acid test and each performance was scored by a single point, 1, or a zero mark. The points were added and a certain number was necessary to qualify the applicants who were then rated as expert, journeymen, or apprentice. Previous to these examinations the men were given thirty days' discipline consisting of drilling, etc.

The first performance consisted of the operator driving from one defined point or post to another, and how he started the engine, used spark and throttle controls, changed gears, used clutch, speed, etc., were factors considered by the examiners. Another test was to drive the truck through an S-shaped road having stakes 4 ft. high and 5 ft. apart, affording a clearance of approximately 8 in. on either side of the car. If the driver completed the route without touching a stake he was credited with 1, but touching a stake gave him an 0. Still another necessary qualification was the ability of the operator to back the machine over the same course, "and," said the Captain, "25 per cent. of the men did so without touching a stake."

The Reverse Gear Test

Driving up a 2½ ft. grade to a square of board at the top of the hill and stopping the truck so that its step centered a certain board, was another stunt. The driver was told to hold the car at the mark, disengage the clutch and place the gears in neutral. Another performance required was turning the truck on the grade within a prescribed space and where backing was essential. If the driver permitted the truck to slide backward a foot or stalled his engine, he was given a zero mark. These and performances of a similar nature determined the ability of the driver to qualify as an expert.

A large number of men were examined. At one camp 60,000 were tested from June to August, inclusive. In addition there were tests to determine the physical and mental fitness of the men, the examination incorporating the salient features which applicants for licenses undergo. At the conclusion of the address the speaker answered questions, the trend of which was the practicability of applying the government or a similar test to civilians. From the character of the questions it was apparent that it was believed that drivers should be more carefully tested by performance as to their ability.

Traffic Laws Defined

Magistrate W. Bruce Cobb, of the Traffic Court, very clearly defined violations of the traffic laws and gave a very detailed account of several cases of violations. He urged that owners of trucks test or have tested the speedometers on their cars, stating that frequently the truck speedometer was incorrect and that the driver unconsciously exceeded the speed limit. "If drivers would have their instruments examined at least once a month or test them over a measured course with a stop watch, many well meaning offenders would not be penalized," said the speaker. He also stated that the motorcycle speedometers were tested officially once a month and daily by the men.

In commenting upon the smoking of trucks, Magistrate Cobb said that no traffic officer can determine why a truck smokes, although every violator presents a plausible excuse, consequently the magistrate, although realizing that it may be as stated by the offender, has to impose a fine, as the ordinance gives him no other alternative. The absence of lights comes under the same head.

Laws Inadequate

Magistrate Cobb struck a sympathetic chord when he criticised the motor vehicles laws. He stated that magistrates should have the power to revoke licenses and that no person should be granted a license to operate until among other things, his application was endorsed by three reputable citizens to whom the applicant was well known. The speaker scored the evils of granting operating licenses to those who cannot speak or read our language and those not physically sound. He also stated that the reckless drivers of street cars should be curbed and quoted instances where reports were made showing cars traveling as high as 40 m.p.h. At present there is no ordinance to control street cars which have a right of way over other vehicles going less than 15 m.p.h.

Counsel Bond of the association briefly outlined some of the bills to be introduced at Albany. At present there are about eight bills, but more are expected. He said that there was every probability that the truck owners would be called upon to make up the deficiency in the state treasury which will exist with the coming prohibition, that the legislators would seek to impose additional taxes upon the trucks to offset the $12,000,000 loss through prohibition.

Many Bills Probable

Among the bills is one giving the Park Commission the right to allow use of the Speedway by motor vehicles. Another provides for oiling but one-half a highway at a time, the posting of guards at each end of it and the taking of the numbers of the license plates of trucks passing over the road. Another will require, if passed, the showing of the tonnage of a truck and a trailer on the license plate. One bill proposes to make the owner of a truck liable for any damage by it when operated by others than those authorized.

A labor bill will be introduced, making it impossible to enjoin unions from strikes, etc. Still another provides that the certificate of registration shall be carried on an exposed place of the truck. Mr. Bond stated that it was probable that bills regulating the weights, sizes, etc., of trucks and trailers would make their annual appearance as well as other forms of legislation and urged that every effort be brought to bear to defeat those antagonistic to motor trucks.

Seattle Garagemen Plan Organization

SEATTLE, WASH., Jan. 20.—Garage owners of Seattle are planning an organization, which is expected to benefit them in the matter of the purchase of supplies. Plans were discussed at a recent meeting, and D. F. Conover was named to head the organization.

Improved Highways—the Nation's Need

Personal Items

S. Asch has been appointed business manager in charge of the factory offices of L. V. Flechter & Co., New York City.

A. H. Bartsch is now advertising manager of the American Bosch Magneto Corp., New York City.

Lieut. D. W. Bay has returned to his position as salesmanager of the Hyatt Roller Bearing Co., Detroit, Mich. He will make his headquarters at 2715 S. Michigan Ave., Chicago, and will have charge of the Illinois, Wisconsin and other territory in the Northwest.

Major John L. Bender has been released from military duty and is now general sales manager of the Anderson Forge & Machine Co., Detroit. Major Bender has been connected with the automobile industry for the past fifteen years, having been connected with the Timken Roller Bearing Company, the Grant Lees Machine Company and for the past four years district manager and later distributor for the Willys-Overland Company in Pennsylvania.

W. E. Biggers has accepted a position as assistant to the president of the Owosso Mfg. Co., Owosso, Mich. He was formerly advertising manager of the Motor Equipment Division of the United Motors Section of the General Motors Corp.

G. P. Blackiston is now head of the cooperative and advertising department of the American Rubber & Tire Co., Akron, Ohio.

Graham W. Brogan, former advertising manager of the Duesenberg Motors Corp., has joined the Black & Decker Mfg. Co., Baltimore, Md., and will handle the publicity for that company.

Rolla G. Carpenter, professor of experimental engineering at Cornell University since 1895 and a prominent member of the Society of Automotive Engineers, died January 19, at his home in Ithaca, N. Y.

C. B. Caruthers has been appointed district manager by the Denby Motor Truck Co., Detroit. He will have charge of Indiana and Kentucky territory.

J. M. Case, who was formerly sales and advertising manager of the United Motors Co., has been apppointed advertising manager of Garford Motor Truck Co., Lima, O.

Lieut. Ezra W. Clark has been discharged from the Air Service and is now advertising manager for the Clark Equipment Co., Buchanan, Mich. He will make his headquarters at the Chicago office of the company.

Otis R. Cook has been made vice-president of the Kelly-Springfield Tire Co., New York City. **Maurice Switzer** has also been elected a vice-president.

Angelo R. Cias has resigned as secretary of the Falls Motors Corp., to become president and general manager of the Lewis Steel Co., Toledo, Ohio.

Lieutenant Gerald A. Christopher has resigned his commission in the air service, and has rejoined the Eclipse Machine Co., as assistant to the chief engineer.

F. A. Da Pron and **Walter Hewitt** are added to the foreign sales department of Four Wheel Drive Auto Co., Clintonville, Wis.

Geo. W. Daum has been elected second vice-president in charge of production of the Pennsylvania Rubber Co., Jeannette, Pa.

W. N. Durphy, sales representative in the Des Moines territory of the Four Wheel Drive Auto Co., Clintonville, Wis., died very suddenly on January 15 at the home of the Four Wheel Drive dealer in Des Moines.

R. J. Firestone, sales executive of the Firestone Tire & Rubber Co., Akron, Ohio, has disposed of his interests in that company and resigned.

C. J. Fischer has been appointed district sales manager for Ohio, Indiana, Kentucky, Pennsylvania and the Central Atlantic states by the Nelson Motor Truck Co., Saginaw, Mich.



D. G. Caywood
Formerly sales manager of the Brunner Manufacturing Company, who has joined the Black & Decker Manufacturing Company, Baltimore, Md., in the capacity of special representative.

Herb Flint is now western sales manager of the Abbott-Downing Truck & Body Co., Concord, N. H.

Percy Ford, well-known to the trade as an accessory dealer, has been appointed sales manager for C. S. Ransom, Inc., Boston, distributor of Fulton trucks.

E. S. Gellatly, for several years vice-president of the Indian Refining Co., New York City, has severed his connection with that company to take charge of the organization of a new department for the Illinois Zinc Co.

G. A. Gibson, who was to have filled the position of general manager for the O. Armleder Co., Cincinnati, as announced in the January issue of the COMMERCIAL CAR JOURNAL, has been forced to change his plans, owing to the ill-health of his wife.

Jas. Q. Goudie has been elected general sales director, in charge of branch sales with the Pennsylvania Rubber Co., Jeannette, Pa. He will make his headquarters in Detroit.

George M. Graham has been made general manager of the Pierce-Arrow Automobile Co., Buffalo, N. Y.

Jerry Hall has recently severed his connection with the Mechanical Belt Co., for which company he was general manager, and has opened a wholesale and retail tire and accessory business at 1007 Francis St., St. Joseph, Mo., under the name of the Jerry Hall Tire Co.

Harry H. Hawke has been appointed general sales manager for the Traffic Motor Truck Corp. of St. Louis. He was formerly sales manager of the DeLuxe Automobile Co., St. Louis Oldsmobile distributor.

Arthur H. Hertz, sales representative of the Automotive Products Corp., New York City, is now en route for the Far East. He will visit the Philippine Islands, Japan, China, Malay Peninsula, Dutch East Indies, Australia, New Zealand, South Africa, and probably India, in the interests of the company.

K. K. Hoagg, who has just returned from eleven months' government service in the Ordnance Department, has been appointed engineer, sales department of the Hyatt Roller Bearing Co., Detroit, Mich.

Norman S. Hobson is now associated with the Connecticut Telephone & Electric Co., Meriden, Conn., and will handle the sales of that company's products in New England and upper New York State.



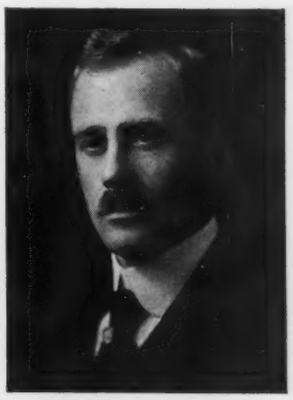
Major George D. Wilcox
Who has returned to the Commerce Motor Car Company, Detroit, Mich., as director of sales and advertising. Major Wilcox commanded the Detroit district of the Motors Division of the Quartermaster Corps.



Mark W. Roe
Who has been made vice president in charge of the plant of the Republic Rubber Corporation, Youngstown, Ohio.



Frank S. Cooke
New advertising manager of the Denby Motor Truck Company, Detroit. Formerly automotive editor of the Detroit Free Press.



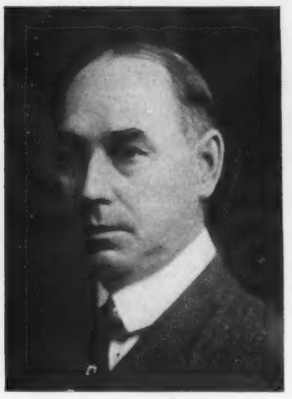
H. A. Oswald
Now associated with the American representative of The Fabrica Cubana de Automoviles y Camiones, Habana, Cuba. This company will manufacture in Cuba, tractors, trucks, passenger cars and trailers.



Justin R. Weddell
Who has been appointed advertising manager of the Firestone Tire & Rubber Company, Akron, Ohio.



O. L. Travis
Who has been appointed sales manager of the Owen Tire & Rubber Company, Bedford, Ohio, manufacturer of Owen truck tires.



Harvey J. Woodard
Who has been made vice president in charge of sales of the Republic Rubber Corporation, Youngstown, Ohio.



J. J. Tobias
Who has been placed in charge of the Detroit branch of the Moto-Meter Company, Incorporated.

Wallace C. Hood has disposed of his interest in the Foster-Hood Sales and Service Co., Detroit, to his partner, James H. Foster, who will continue the business. Mr. Hood has acquired an interest in the Noyes-Killy Motor Co., Kansas City, Mo., and will act as manager of that company's Kansas City branch. The Noyes-Killy company is a distributor of Paige cars exclusively.

C. B. Johnson, formerly sales manager of the Advance Automobile Accessories Corp. and since then engaged in military service, has been released from service and is now sales manager of Auto Components, Inc., Chicago, Ill.

W. J. Johnston has recently been promoted to the post of field sales manager of the Connecticut Telephone & Electric Co., Meriden, Conn. He has for the past seven years looked after the interests of the company in their relations with automobile manufacturers.

Lewis P. Kalb, formerly Major in charge of design, testing and specification work in the Engineering Division of the Motor Transport Corps, has joined the engineering staff of the Standard Parts Co., as assistant to J. G. Utz, director of engineering.

P. J. W. Kelly has recently joined Gray & Davis, Inc., Boston, Mass., in the capacity of chief engineer.

Chas. F. Lyngaas, export factor for accessories, parts and tools, 46 W. Broadway, New York City, announces that he will leave in March for a trip to England, South Africa and the Argentine, instead of in January, as he had originally intended.

W. H. Luhrs, general manager and a member of the board of directors of the General Aluminum & Brass Mfg. Co., Detroit, has severed his connection with that company. Mr. Luhrs was one of the men who developed and manufactured the first brass-backed, babbitt-lined bearings in this country. He will announce his plans for a new bearing plant in a very short time, where he will manufacture a new type of bronze back bearing.

H. T. Melhuish, for some years advertising manager of the Fulton Motor Truck Co., Farmingdale, L. I., is now in charge of the Fulton Office in Philadelphia, succeeding **M. R. Sanborne,** who will have charge of the Kansas City office.

Captain Ray T. Middleton has accepted the position of general representative for the Standard Steel Castings Co., Cleveland, Ohio. Before entering the air service Captain Middleton was Detroit manager for the Steel Products Co.

Thomas L. Moore, recently appointed southwestern district manager for the General Tire & Rubber Co., will make his headquarters at Dallas, Texas.

Major M. B. Morgan has been appointed chief engineer of the Cleveland Tractor Co., Cleveland, Ohio. Major Morgan has, for some time past, been assistant to the chief of the Ordnance Department, and was in charge of the designing and development of the Caterpillar tanks and tractors for war use.

William Tully Norton, Jr., formerly in charge of the executive branch, Engineering Division, Motor Transport Corps, has been appointed chief engineer of the Russel Motor Axle Co., Detroit.

A. C. Olfs, formerly eastern representative of the Titanium Bronze Co., has been appointed Michigan representative of Stewart Mfg. Corp., Chicago, maker of die castings.

B. V. Osborne, formerly located at the Fulton factory at Farmingdale, L. I., has been appointed assistant sales manager for C. S. Ransom, Inc., Boston, distributor of Fulton trucks.

A. B. Parks, who has been associated with the Curtiss Aeroplane Corp., for the past two years, has recently joined the sales force of the Four Wheel Drive Auto Co., Clintonville, Wis.

A. H. Price has been made second vice-president in charge of sales development of the Pennsylvania Rubber Co., Jeannette, Pa.

L. P. Prossen has been elected vice-president of the Nilson-Miller Co., Hoboken, N. J., and will have charge of the gear cutting, piston and piston ring departments of this company.

Gilbert U. Radoye has been appointed advertising manager and assistant sales manager of the Haynes Automobile Co., Kokomo, Ind.

N. B. Reisinger has been made general manager of the W. H. Krueger Motor Co., Milwaukee, Wis. This company distributes Briscoe cars in Wisconsin and the upper peninsula of Michigan.

W. D. Rockwell has been made sales manager of the Adams Axle Co., Findlay, Ohio.

F. U. Rosebery has been appointed western sales manager for the Maccar Truck Co.,



C. D. Vincent
For many years in the sales department of the United States Steel Corporation, who has joined the sales force of the Buda Company, Harvey, Illinois.



C. M. Jessup
Who has been appointed assistant to O. F. Conklin, president of the Remy Electric Company, Detroit, Michigan.



Honor C. Blocker
Who has recently been made advertising manager of Republic Rubber Company, Youngstown, Ohio.



Captain C. E. Frudden
Who has recently joined the sales department of the Buda Company, Harvey, Illinois. He was formerly chief engineer of the Hart-Parr Company.

Scranton, Pa. Mr. Rosebery was formerly sales manager of the Service Motor Truck Co., and was later connected with the Signal Motor Truck Co. as eastern manager.

Major Mason P. Rumney has been released from duty with the Ordnance Department, and is now back at his desk with the Detroit Steel Products Co., Detroit.

A. W. Russel has again taken up his active duties as president of the Russel Motor Axle Co., Detroit, Mich. Mr. Russel has been in Washington for almost a year and a half. In August, 1917, he was appointed chairman of the Axle Division of the standardized Truck Conference, and later was assistant to Mr. Crowell, Assistant Secretary of War. He was also a member of the War Credits Board.

Frank R. Ryan has been added to the sales force of the Chicago office of the Roller-Smith Co., of New York City. The Chicago Office of the company is located at 740 Monadnock Block.

M. G. Spencer, formerly connected with the Midvale Steel Co. and later with the Watertown Arsenal in the capacity of chief chemist, has joined the Electric Steel Co. of Indiana, Indianapolis, Ind., and is in charge of metallurgical operation.

G. C. Stevens, for the past seven years with the Chicago Pneumatic Tool Co., as branch manager, has resigned to accept the position of western sales manager of the Corbitt Motor Truck Co., Henderson, N. C.

Earle T. Sutton has been made district manager in charge of Ohio, Pennsylvania, Virginia and West Virginia territory for the Denby Motor Truck Co., Detroit. He will make his headquarters at 24 W. Second Ave., Columbus, Ohio.

William K. Swift has joined the sales department of the Bound Brook Oil-less Bearing Co., Bound Brook, N. J.

Sutherland G. Taylor, Jr., has been appointed export manager by the Holt Mfg. Co., Peoria, Ill.

George H. Treviranus has been appointed sales manager of the Gemco Mfg. Co., Milwaukee, Wis.

Horace N. Trumbull, who has recently been discharged from the Engineers' Officers' Training School at Camp A. A. Humphreys, Va., has been appointed advertising manager of the Wellman-Seaver-Morgan Co., Cleveland, Ohio.

Captain Harold J. Vogler has been appointed district sales manager for the Service Motor Truck Co., Wabash, Ind. His territory will include Maryland, Virginia, District of Columbia and the Carolinas. Captain Vogler was, before entering the service, wholesale manager for the Willys-Overland Co.

F. W. Warrington has been appointed assistant sales manager by the Denby Motor Truck Co., Detroit.

A. L. Watts, formerly captain in charge of the Specification and Record Section of the Engineering Division of the Motor Transport Corps, has joined the engineering staff of the Standard Parts Co., where he assumes similar duties.

A. A. Westlake has been appointed eastern sales manager of the motor truck tire department of the McGraw Tire & Rubber Co., with headquarters in New York City.

A. M. Whaley, formerly southern district manager for the Kelly-Springfield Tire Co., has been appointed southern sales manager for the General Tire & Rubber Co., Akron, Ohio. He will make his headquarters at Atlanta, Ga.

Lieut. Willets, who was chief instructor in the motor training school which the Government maintained at the Four Wheel Drive plant at Clintonville, Wis., will have charge of instruction work connected with the plant.

Factory News

Dearborn Truck Co., Chicago, Ill, announces that the capital of the company has been increased from $5,500,000 to $10,500,000.

Gary Motor Truck Co., Gary, Ind., has begun the construction of a branch factory at Lowell, Ind. The new plant will be devoted to the manufacture of axles, and will cost about $15,000.

No-Leak-O Piston Ring Co., Baltimore, Md., formerly Automobile Accessories Co., announces that its new office and storage warehouse has been completed, giving the company much better facilities for handling its growing business.

Continental Motors Corp., Detroit, has declared a dividend of 1 1-2 per cent. on common stock.

Edmunds & Jones Corp., Detroit, Mich., is planning an addition to its plant in Lawton Ave. to cost in the neighborhood of $35,000.

Fulton Motor Truck Co., Farmingdale, L. I., N. Y., is planning the erection of additions to its plant, which will enable the company to increase the output of its trucks.

Gray-Dort Motors, Ltd., Chatham, Ont., has just completed a three-story addition to its present factory. This will give the company an additional floor space of 50,000 sq. ft.

Winther Motor Truck Co., Kenosha, Wis., has increased its capital from $3,300,000 to $3,800,000.

Removals and Trade Changes

Gates Rubber Co., Denver, Col., has changed the name of its product to the Gate Vulco Tube Patch.

Scott Valve Mfg. Co. is the name by which the former Roe Stephens Mfg. Co., of Detroit, Mich., will be known in future. There will be no change in the policies, management or organization of the business, the change of name being made only to avoid confusion and because it better designates the nature of the business.

Zenith Carburetor Co., Detroit, Mich., announces the removal of the offices and service station of the company from 245 W. 55th St. to 692 11th Ave.

Stinson Tractor Co. has discontinued business at Minneapolis, Minn., and has removed its offices and plant to Superior, Wis.

Fore Electrical Mfg. Co., St. Louis, Mo., announces that it has removed to new and larger quarters at 5811 Easton Ave.

Republic Auto Parts Co., Long Island City, N. Y, has succeeded the Humboldt Machine & Stamping Co. The company states that the new name is more in keeping with the nature of its business.

L. V. Flechter & Co., New York City, announces the removal of its western branch offices in Detroit from 790 Woodward Ave. to larger quarters in the Goldberg Bldg., Woodward and Warren Aves.

Newman Tire & Rubber Co., Inc., New York City, is occupying new quarters at 244-46 W. 54th St., where wholesale and retail sales will be conducted. The general offices and warehouses of the company will also be located there, and merchandise will be distributed from this point to the several retail stores of the company.

Staff Brothers Co., 1765 Broadway, New York City, has recently been formed to take over the sales departments of manufacturers who seek representation in the jobbing trade. A Chicago office has been established at 616 Michigan Ave., and a San Francisco office will be opened in the near future. Members of the firm are: John Staff, former territorial manager of the Silvex Co.; Louis A. Staff, formerly assistant general manager of sales of the Silvex Co.; Joseph Staff and John Staff, formerly associated with the Chevrolet Motor Co., and Eli Jacoby.

White Co., Cleveland, Ohio, announces the removal of its advertising department from the factory administration building to the Union Bldg., 1836 Euclid Ave., Cleveland.

Zwick & Greenwald Wheel Co., Dayton, Ohio, announces that the P-T Wheel Co. is now consolidated with the Zwick & Greenwald Co., and the latter company, in addition to its own lines, is manufacturing wheels of the P-T type for use on farm and heavy road tractors, etc.

Westinghouse Electric Mfg. Co., East Pittsburgh, Pa., announces that its automobile equipment department is now located at Newark, N. J. Before the war this department was located at Shadyside, Pittsburgh. Besides a number of accessories this company is making a lighting apparatus, an ignition system, a self-starting device and storage battery to supply power to these.

New Agencies

Valdo & Martinez Co., Havana, Cuba, has been appointed distributor for the Island of Cuba by the Standard Motor Truck Co., Detroit, Mich.

Automotive Sales Co., Indianapolis, Ind., will distribute Commerce trucks in the state of Indiana.

C. S. Ransom, Inc., Boston, Mass., has been appointed a distributor of Fulton trucks by the Fulton Motor Truck Co., Farmingdale, L. I.

Bishop Truck & Tractor Co., St. Louis, has taken the agency in that district for the Sandow truck.

Taylor Motors Corp., 1924 Broadway, New York City, distributor of the Standard "8" car, has taken on the Wilcox truck.

R. E. Taylor Corp., New York City, has been appointed a distributor by the Signal Motor Truck Co., Detroit. This company will distribute Signal trucks in New York City and State, western Connecticut, New Jersey, Pennsylvania, Delaware, Maryland and the District of Columbia.

International Motor Co. of New York has taken over the sales and service organization covering Mack trucks in the Pittsburgh district, and has formed a new branch to be known as the International-Mack Corp., 5911 Center Ave. The J. F. Sweeney Co. for a number of years handled the Mack line in Pittsburgh. J. F. Sweeney, president of that company, is now branch manager of the International-Mack Corp.

International Motor Co., New York City, announces that a new International-Mack branch has been formed in the city of Knoxville, Tenn. Don C. B. Van Dusen, southern district manager, is in charge.

Barrow Motor and Truck Co., Columbia, N. C., has secured the agency for the Winther truck.

Skelton-Mullin Co. has been formed at Toledo, Ohio, to handle Signal trucks in this city and surrounding territory.

Oneida Truck Sales Co., Pittsburgh, Pa., will distribute Oneida trucks in western Pennsylvania, eastern Ohio and the state of West Virginia. J. D. Kerr has joined the company as general manager.

A. J. March Motor Truck Co., 215 Wisconsin St., Milwaukee, Wis., state distributor of Clydesdale and Vim trucks, has been appointed state distributor by the Four Wheel Drive Automobile Co.

Activities of the Motor Truck Association of Philadelphia

OFFICERS

T. K. QUIRK, President
J. HARRY SCHUMACKER, Vice President
W. ROSS WALTON, Treasurer
W. H. METCALF, Sec'y, 328 N. Broad Street

BOARD OF GOVERNORS

LEE J. EASTMAN O. W. DOOLITTLE E. R. WHITNEY
J. HARRY SCHUMACKER THOMAS K. QUIRK
J. D. HOWLEY

COMMERCIAL CAR JOURNAL OFFICIAL ORGAN

Officers Elected at Annual Meeting

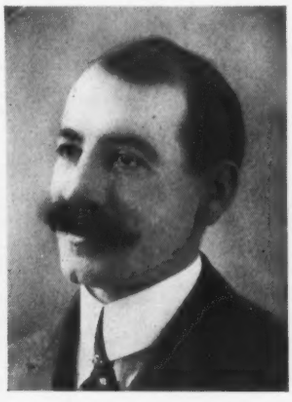
PHILADELPHIA, Jan. 17—Just one hundred and two members of the Motor Truck Association of Philadelphia and their guests met in the Green Room of the Hotel Adelphia, at the annual election and dinner of the organization, and listened to optimistic addresses on the business outlook. There was an atmosphere of post-war cheerfulness in the speeches. President John D. Howley presided.



W. Ross Walton
Of the Firestone Tire & Rubber Company, re-elected treasurer



Thomas K. Quirk
Of H. Kaiser & Company, Inc., president



J. Harry Schumacker
Of J. H. Schumacker & Company, vice president



W. H. Metcalf
Of the Wire Wheel Corp. of America, re-elected secretary

The Motor Truck Association, the Philadelphia Automobile Trade Association and the Automobile Accessories Business Association, with the Motor Federation, are co-operating with Governor Sproul and Lewis S. Sadler, the new State Highway Commissioner, to obtain the most beneficial legislation possible for the motor truck dealers, owners and distributors, with the object of protecting, not only the trade, but the interests of those who purchase motor trucks and use the highways.

A. E. Maltby, president of the Philadelphia Automobile Trade Association, in an enlightening manner brought out these points in an address; also the significant fact that both Sproul and Sadler are themselves ardent motorists and in full sympathy with the rights of the men who own cars. This combination, Maltby ventured to say, might result in legislation favorable to the aims of the associations interested.

J. A. Wister, a former president of the Philadelphia Automobile Trade Association, who recently returned to the business of selling motor trucks, after five years' absence from the trade, and now a member of the firm of the Gawthrop-Wister Co., spoke on former conditions in the trade, comparing old methods with the improved way of transacting business.

Ray W. Sherman, editor of *Motor World,* and secretary of the Automobile Show Managers' Association, spoke on "New Business in 1919." Mr. Sherman urged the members to get back to business, and said that the most abused word at the present time is "reconstruction." "What we want to do," he said, "is to forget reconstruction and get back to real business."

The election of officers resulted as follows: President, Thomas K. Quirk, of H. Kaiser & Co., Inc.; vice-president, J. Harry Schumacker, of J. H. Schumacker & Co.; secretary, W. H. Metcalf, of the Wire Wheel Corp. of America, and treasurer, W. Ross Walton, of the Firestone Tire & Rubber Co. Two of the officers were re-elected—Metcalf for the fifth consecutive term, and Walton, second term. Mr. Howley and Lee J. Eastman, of the Packard Motor Car Co., of Philadelphia, were elected directors for a two-year term.

Wisconsin Organization to Co-ordinate Trade Activities

MILWAUKEE, Jan. 16.—The Milwaukee Automobile Dealers, Inc., are planning an organization which will include all sections of the motor car and accessories trades in Wisconsin. A committee, of which Alfred Reeke is chairman, has plans under consideration and hopes soon to enroll all representative passenger and commercial car dealers, garagemen, tire, accessory and supply dealers in the M. A. D.

The plan permits of the formation of sectional bodies representing the several lines of the industry, which will handle their own particular problems, acting under the general direction of the association.

Parcel Post Demands Good Roads

Lincoln Highway Association Elects Officers

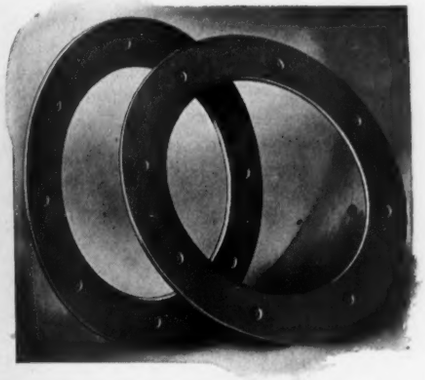
DETROIT, Jan. 20.—At the annual meeting of the Lincoln Highway Association held at the Detroit Athletic Club, the following officers were elected for the year 1919: F. A. Seiberling, president; Henry B. Joy, Roy D. Chapin, Carl G. Fisher, H. C. Osterman, vice-presidents; A. F. Bement, vice-president and secretary, and Emory W. Clark, treasurer.

TRUCK EQUIPMENT AND APPLIANCES

Raybestos Molded Facing

The Raybestos Co., of Bridgeport, Conn., has recently announced a new type of facing for multiple disc clutches, known as the Raybestos Molded Disc Clutch Facing.

This improved facing is composed of pure asbestos with a suitable binder, molded under tremendous pressure, insuring absolute homogeneity and accuracy to a greater degree than heretofore. It can be made endless.



The Molded Facing Recently Announced by the Raybestos Company

The maker states this facing presents an unusual amount of frictional surface to the steel disc, giving it more capacity than usual for a given size of clutch.

The maker's claims for the Raybestos Molded Facing are easy action of a clutch equipped with these facings, positive release and absolute freedom from sticking.

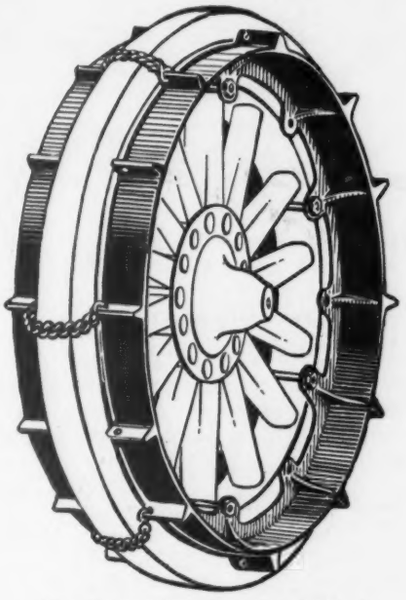
Blozout-Carbon Remover

The Wallace Co., of 239 Halsey St., Newark, N. J., is manufacturing Blozout, a liquid carbon remover. This product is poured in upon the hot piston and allowed to stand while the engine gets cold. The maker states it makes a wet, soft, plastic substance of the carbon, and the next time the car is operated it will gradually be dried out and blown out the exhaust in the form of a powder. It is claimed that this powder is so fine that it cannot pit the valve seats. In case the carbon deposit is very heavy Blozout should be used a second time. The maker states it contains no acid, ether or any injurious chemicals, and also that the engine can be kept clean for 5000 miles at a cost of $1 with this product.

Foley Auxiliary Truck Wheel Provides Traction in Sand and Mud

A new rim or auxiliary wheel with traction lugs, to be fitted on one or both sides of the driving wheels of a motor truck, is being manufactured by the Foley Auxiliary Wheel Co., of Minneapolis, Minn. These lugs, as the illustration shows, are used on both sides of the wheel where convenient and have a road clearance while the truck is operating over smooth and hard roads. But when soft sand is reached and the rubber tire sinks into it, the Foley Auxiliary Wheel comes into action. The rim surface gives a bearing which prevents further sinking into soft footing, and the tractor lugs secure a firm grip in the soft surface, providing the necessary traction.

When these rims are in place the action is entirely automatic. They can be



The Foley Traction Rim Applied

This illustration shows a truck wheel equipped with a pair of Foley traction rims

attached to the inner side of the truck wheel if there is 3 in. clearance on the inside and of course can always be attached to the outside of each wheel. The wheels need not be removed or even jacked up to apply these rims. The prices per set of two range from $20 to $65. Non-skid cross chains can also be secured.

Trailer Specifications in March C C J

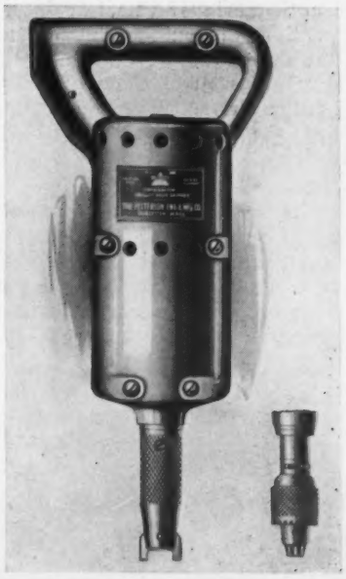
The Bilt-Rite Combination Drill and Valve Grinder

The Petterson Engineering & Mfg. Co., of 311 Main St., Worcester, Mass., has designed and marketed the Bilt-Rite Combination Drill and Valve Grinder. This product is an electric, portable device, capable of grinding valves and drilling holes up to ¼ in. diameter. The change can be made in a second's time with a screwdriver. In combining the two devices in one the maker has produced a device often used during the day in the work of any repair shop. The oscillating speed when used as a valve grinder is not excessive.

The tool has a ball bearing thrust, and is smooth and compact, having no outside projection to interfere with work. It is equipped with a button switch. Lubrication is by grease in the gearing, with oil holes for the motor, oscillator and drill-shaft bearings. This drill and grinder comes with a socket plug, 8-ft. cord, attachment plug, a switch between the plug and motor, a grinder clutch, a drill clutch, and three drivers to fit the grinder clutch for various cars.

Drill and Valve Grinder Manufactured Separately

This concern is also manufacturing the Bilt-Rite Portable Electric Drill and the Bilt-Rite Electric Valve Grinder as separate units. These drills and grinders



This Device, Made by the Petterson Engineering & Manufacturing Company, Combines a Valve Grinder and a Drill

resemble the combination of drill and valve grinder, being slightly lighter in weight but with the same general specifications.

The Allen Ratchet-Type Differential

The Allen Compensating Mechanism for motor vehicles provides a locking, gearless, friction and automatic differential. In the construction of this new differential the maker, the East Iron & Machine Co., of Lima, Ohio, has applied the principle of the pawl and internal ratchet, positively and automatically controlled. The illustration shows the internal ratchet wheel as a splined hub for holding the wheel shaft ends, the spider ring carrying the driving pawls being on each side of the forward and reverse driving member. These pawls have limited movement. The whole as a unit is secured within the casing to which the main gear wheel is attached. To the casing is secured the driving mechanism of the ratchet wheels, the spider rings and the pawls, the spider ring arms being secured in flaps in the casing and provided with 3-16 in. movement, which movement automatically changes the driving mechanism from forward to reverse drive.

This differential provides a positive two-wheel drive which will occupy the same space in the axle housing as the usual differential.

The mechanism in operation pulls both wheels, all parts moving together as one. When a corner is rounded and one part moves faster, that member is relieved of the load. The outer or wheel on the long curve overrunning the driving pawl and making it a free wheel without friction. Thus it is only the inner wheel on the curve which drives the load.

In turning a corner, if the inner or driving wheel should lose its traction, the wheel on the long curve picks up the load until the inner wheel again secures its traction. When the clutch is released, the differential reverses and the reverse pawls control the wheels on the momentum drive. When power is again applied, the differential returns to forward drive.

With the differential of this type, mud holes, ice, snow, etc., can be encountered and if one wheel can get traction on the road the vehicle will be carried through it, and, in case of a drive shaft or chain breakage, the car will continue operating.

Se-Ment-Ol Liquid Radiator Repair

Se-Ment-Ol Liquid, a product which will add greatly to the convenience of the motorist, has been placed on the market by The Northwestern Chemical Co., Marietta, Ohio, makers of the Norwesco "Chemically Correct" automotive equipment.

It contains all the chemical properties of the original power form. After the liquid is poured into the radiator, the water, circulating through the cooling system, carries it to the leak and on coming in contact with the air it congeals and is hardened by the heat, forming an elastic repair which the maker states cannot be destroyed by the action of the water or the vibration of the car.

It is not necessary to drain the radiator, as Se-Ment-Ol Liquid is absolutely harmless, and if allowed to remain in the cooling system will automatically repair any new leaks that may develop.

Se-Ment-Ol Liquid not only saves time, but it cuts repair bills. A seventy-five per cent. can will repair a radiator holding 6 gallons of water.

The Marquette Tire Tool

The Marquette Mfg. Co., Inc., 616 Endicott Bldg., St. Paul, Minn., is marketing the Marquette Tire Tool. This concern states the tool will remove a tire within a few seconds' time and will not injure the inner tube or casing in any manner. It is also claimed to be fool proof and to quickly remove tires which have been rusted on the rims, and is also essential in the applying of a new tire.



The Marquette Tire Tool

It is made from a good grade of malleable iron and is strengthened where any strain is likely to be placed upon it. This tool retails at $2.75, and is packed in an individual corrugated paper box, in lots of 12.

Black & Decker Offers New Drill

The Black & Decker Mfg. Co., of Baltimore, Md., maker of the B&D Portable Electric Drills "with the pistol grip and trigger switch," has added a new size drill to its line. This drill has a capacity of ⅞ of an inch in steel and weighs only 27 lb. It is equipped with a removable No. 2 Morse taper socket to take taper shank drills up to ⅞ in. in diameter.

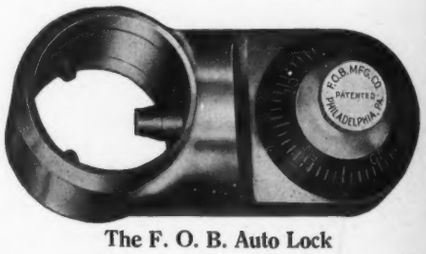


The Latest Black & Decker Drill
It is a light weight drill and of ⅜-in. capacity

The drill measures 5¾ in. from the center of the spindle to the edge of the frame. This drill is also equipped with a light weight, high powered, series compensated motor which delivers a maximum output of more than ½ hp. Its light weight and the automatic control provided by the "pistol grip and trigger switch" make this drill highly adaptable to a wide variety of work.

F. O. B. Thief Lock for Steering Mechanism

The F. O. B. Mfg. Co., with offices in the Real Estate Trust Bldg., Philadelphia, Pa., has recently placed on the market a lock to make a passenger car or truck thief-proof. It operates on the steering column and when in place on the shaft below the wheel, by simply spinning the combination, the wheels are locked so the car can go in one direction only, i. e., straight ahead.



The F. O. B. Auto Lock

All police and fire regulations are complied with and when the lock is properly attached there is no opening or screw hole visible where a thief can insert a tool in an effort to pry the lock off.

It is constructed of aluminum alloy with a tensile strength of 30,000 lb. to the square inch. A sledge hammer is of no avail in loosening the lock from its place. The lock is highly finished and will not corrode.

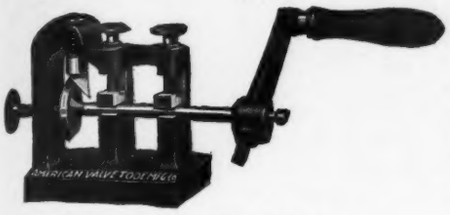
A slight turn of the combination dial and the car is locked by a bolt entering the steering post. Every lock has its own combination. In case of necessity the combination can be changed. Price, $25 attached.



The Allen Differential, Which is Gearless and Automatic in Operation

American Valve Facing Tool

The American Valve Facing Tool, manufactured by the American Valve Tool Mfg. Co., of 360 West 50th St., New York City, is adjustable and rugged in construction. The maker states that this tool will handle any size of



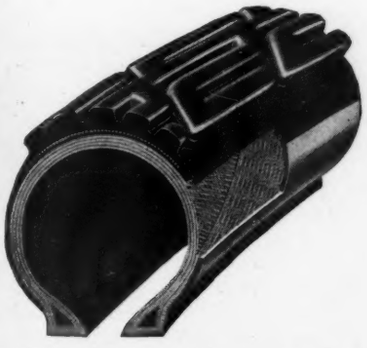
Handles Any Size of Valve

valve, regardless of stem-diameter and without the use of bushings.

As the illustration shows, the cutters are adjustable vertically, and the valve face can be cut and trued within a few minutes to any angle from 30 to 90 deg. This tool is so simply constructed that accurate work can be turned out by the average person. It is especially adapted to use in repair and service shops where quick work is demanded and time saving is essential. The price is $6.00.

New Amazon Super-Cord Tire

A new, massive cord tire, the "Amazon Cord Super-tire," has just been announced by the Amazon Rubber Co., of Akron, Ohio. Of multiple ply construction, the cords are separated from each other by an insulation of rubber. Each cord performs its functions independently, and friction and consequent heat seem impossible. Its increased air space gives unusual buoyancy and resistance to stone bruises. Almost ¾ in. of sturdy



Section Through New Amazon Tire

It is known as the Amazon Super-Cord Tire and is made in 34 x 4½, 36 x 4½, 35 x 5, 37 x 5 and 36 x 6-inch sizes.

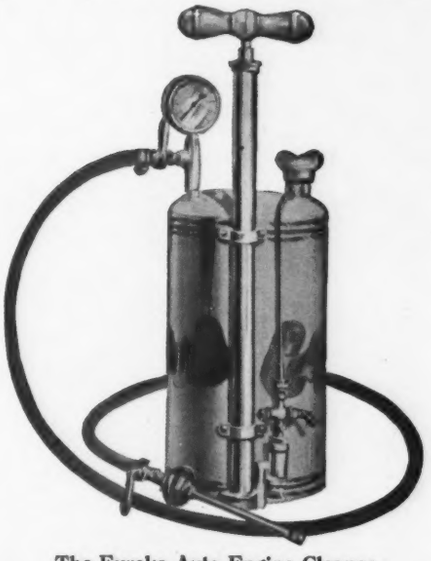
side-wall above the bead makes it mechanically impossible for rim cuts to occur.

The heavy tread is of the same design and compounding as the regular fabric Amazon Supertire. The new cord has a jet-black, ebony tread with a broad pearl-grey side-wall.

The Eureka Auto-Engine Cleaner

The Bishop & Babcock Co., of 49th St. and Hamilton Ave., N. E., Cleveland, Ohio, is manufacturing the Eureka Auto Engine Cleaner, a device operated under pressure for cleaning the engine or machinery of any kind.

The equipment consists of a 3 gal. seamless, galvanized, steel tank with a hand pump attached, gauge, safety valve, spray nozzle and cock and a 10-ft. piece of rubber tubing. The tank is filled two-thirds full of gasoline and the outlet cock closed on the tank until pressure is pumped to 80 or 100 lb. The inlet



The Eureka Auto-Engine Cleaner

Designed especially for cleaning engines, but may be used for cleaning machinery of almost any kind.

cock is then closed and the other cocks opened and the spraying commences. Cleaning should be done in the open and the parts cleaned should be oiled afterwards. Kerosene as well as gasoline can be used in this cleaner.

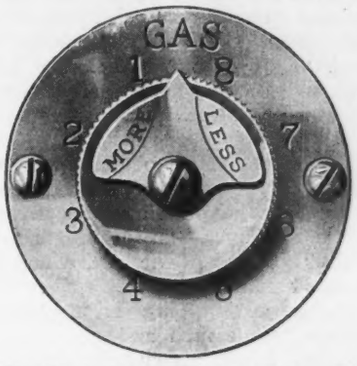
Potter Precision Bench Lathe

A lathe of sturdy construction is being manufactured by the S. A. Potter Tool & Machine Works, of 79 East 130th St., New York City. It is known as the Potter Precision Bench Lathe. It has a swing of 7 in. and a bed 32 in. long. The distance between the centers is 16 in., and the chucks range in capacity from 1-64 to ¾-in. The capacity through the spindle is 15-16 in. The width of the belt for headstock pulley is 1¼ in. The countershaft pulleys operate at a speed of 400 and 800 r.p.m.

The graduated dials on the compound rest are of large diameter and are instantly adjusted without the necessity of set screws and lock nuts.

The Standard Carburetor Control

An outfit for providing manual control of the needle valve of the Ford carburetor from the dashboard, is being



The Control Button of the Carburetor Control

marketed by the Standard Thermometer Co., 65 Shirley St., Boston, Mass., at $1.75. Owing to the fact that speedometer manufacturers are supplying instrument boards with speedometers, which, when installed, will make it difficult for the driver to properly adjust the carburetor control on the standard Ford car, this accessory should be useful.

It consists of a fork end for the Ford carburetor, 2 adjustable connections with 2 adjustable rods, and two universal joints to provide angles so that

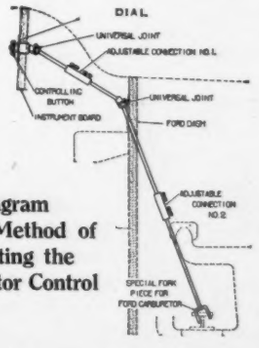
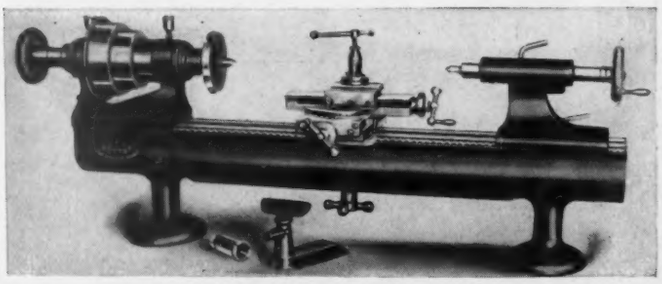


Diagram Shows Method of Mounting the Carburetor Control

the dash control can be conveniently mounted on the instrument board. The combination knob and indicator are thus placed well within the driver's reach,



Potter Precision Bench Lathe

This lathe is furnished complete with a compound rest and a three-speed grinding countershaft.

and the graduated dial guides one in maintaining the correct amount of gas in the mixture. The dial is heavily nickel plated and is made especially for the Standard instrument board, although it can be used on any make of instrument board.

The Hoosier Clutch

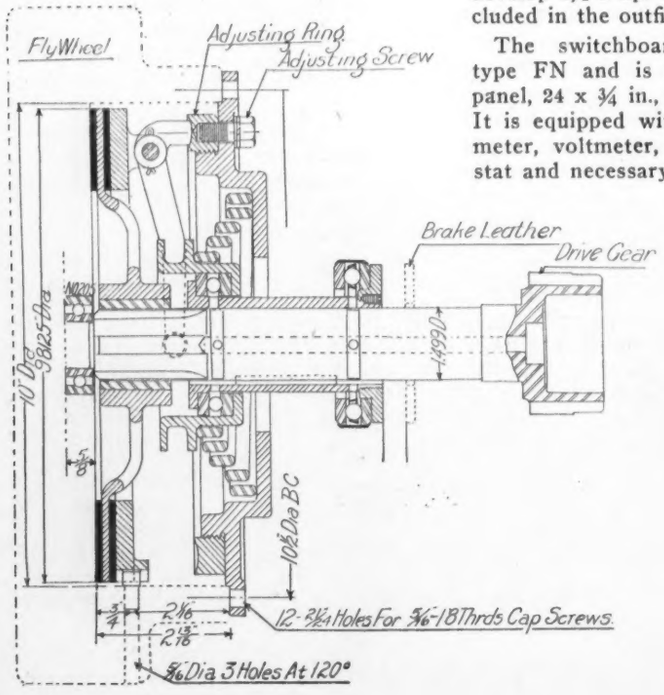
The new design of Hoosier single plate dry disc clutch, as illustrated, is now being offered to the automobile, motor truck and tractor trade by the Hoosier Auto Parts Co., of Muncie, Ind. This clutch is simple and strong in construction, positive and efficient in action, with an easy and simple adjustment directly against the friction bearing surfaces.

This adjustment is obtained by loosening the adjusting screw, which is attached to the adjusting ring through a 5-in. slot in the cover, and turning the screw to the right end of the slot, which gives an adjustment of 1-64 in.

The adjusting ring is threaded 10 threads to the inch and operates on a threaded flange attached to the cover. This ring moves out horizontally, which gives the three clamping levers the same relative position at all times and maintains equalized pressure against the friction discs.

Also the adjusting ring can be screwed out at least ¼ in., and, as the two friction discs are each ⅛ in. thick, the adjustment will easily take care of all the wear these friction discs will stand before it is necessary to renew them.

These Hoosier single plate dry disc clutches can be furnished in the 10-in. and 12-in. sizes, to fit all standard makes of engines and transmissions, for either unit power or amidship application, and are interchangeable with other clutches of similar type.



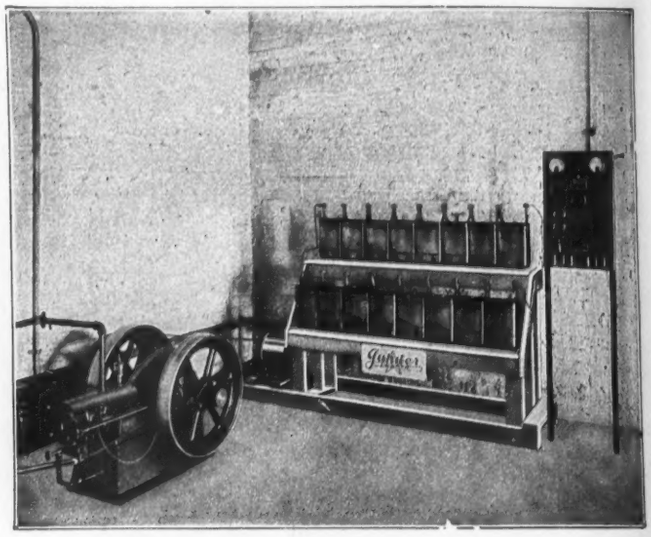
Drawing of Section of the Hoosier Single-Plate Dry-Disc Clutch for Passenger and Commercial Cars and Tractors.

The Jupiter Lighting System

The Jupiter lighting system No. 2, manufactured by the Perfection Storage Battery Co., 2901 Indiana Ave., Chicago, Ill., consists of 4 central units: engine, generator, switchboard and storage battery. The battery in this 30-volt system has 16 Faure type 60-ampere hour 7-plate perfection glass jar cells. The plates of these are 5 x 6 in. and their continuous eight hour discharge rate is 7½ ampere. The generators used with these outfits are 15-ampere, 30 to 40-volt, operating at 850 r.p.m. They are ball bearing and have a 4-in. pulley for operating the battery.

The battery capacity is 240 watts for 8 successive hours, or twelve 20-watt lamps; or 400 watts for 5 successive hours or twenty 20-watt lamps. The generator capacity is 540 watts continuously or twenty-seven 20-watt lamps. The engine required for this plant should develop 1½-2 hp. It is ordinarily not included in the outfit.

The switchboard is known as the type FN and is of marine oiled slate panel, 24 x ¾ in., with bevel front edge. It is equipped with a double scale ammeter, voltmeter, circuit breaker, rheostat and necessary switches and fuses.



The Jupiter Lighting System

This illustration shows the complete Jupiter system No. 2 with special electric gas engine. It has a 30-volt system, 16 Faure type battery.

Trojan Roller Bearing for Fords

The Trojan roller bearing, made by the Ahlberg Bearing Co., Chicago, Ill., is designed to replace the cup and cone bearings now used in the Ford and Chevrolet 490 front wheels.

The bearings are of the tapered roller type and are made of hardened steel, carefully machined and ground. A retainer holds the rolls in place, when the bearing is disassembled. This prevents loss of the rolls and makes mounting easier. No machine work is necessary in mounting the bearing on the hub.

Relieving the ground portion on the outer cup overcomes difficulties which might otherwise be experienced in fitting a hub which has previously been equipped with a pressed steel cup for a cup and cone type of ball bearing.

The maker guarantees this bearing for one year against defective material and workmanship.

The New Ospeco Manifold

The Michigan Auto Products Co. of the Ford Bldg., Detroit, Mich., has placed on the market a manifold for Ford cars. This manifold replaces the exhaust and intake manifolds of the standard Ford car, the carburetor being bolted to the end of the intake manifold. Features of this manifold are the starting box, the humidifier attachment, and the auxiliary air attachment.

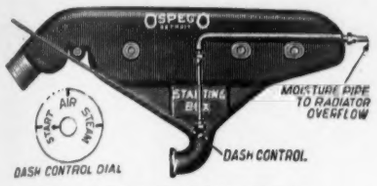
The starting box is in the casting, and this concern supplies paper cartridges to be placed in it, the same as used in a vulcanizer, this cartridge to be ignited,

Hudson Motor Specialties Co., Philadelphia, Pa., maker of the Hudson Crank Case Repair Arm, has brought suit in Illinois for infringement of its rights, by the Hine Watt Co., of Chicago, and the Apco Mfg. Co., of Providence, R. I.

Auto Components, Inc., 56 E. Randolph St., Chicago, Ill., has been organized to market the Red Star Timer for Ford cars.

thus heating the manifold, and expediting the starting of a cold engine.

The air and moisture features are controlled from the dash, and air can be drawn from outside or moist air can be drawn from the overflow of the radiator. This air passes through a tube



Ospeco Manifold for Fords

This manifold replaces the intake and exhaust manifold of the Ford, and is a combination of the two, with an auxiliary air and quick starting feature.

close to the exhaust and is heated before it enters the intake manifold.

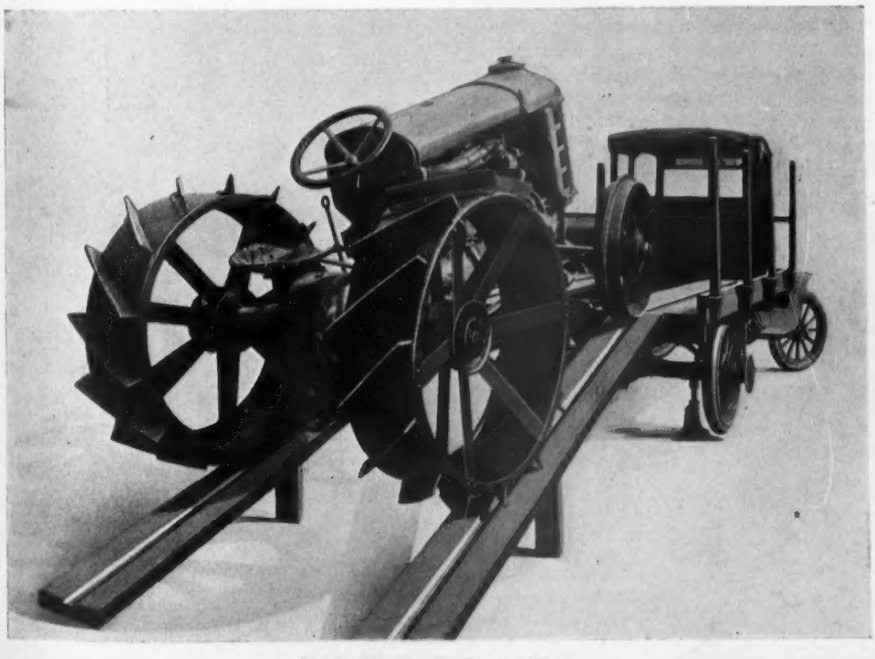
The maker states that carbon deposits are greatly reduced and the general running of the engine much improved with the use of this device. The retail price of this outfit is $12, with a dash control dial and all connections.

Clark Truck Body Designed to Deliver Fordson Tractors

The J. L. Clark Mfg. Co., well-known manufacturer of truck bodies, has introduced a body for the Ford car designed to deliver Fordson tractors, and as well to be used as a general service body. Numerous tests have proven that the body is very useful in moving heavy machinery, carrying light cement mixers and various styles and classes of machinery weighing less than 3000 lb.

This body has a loading space 70 x 106 in., and has 15 stakes, 36 in. high, built low with angle iron sub-sills and heavy cross sills. It has a hard wood bottom. Two removable center boards are grooved and have hooks at the end to attach to the rear stake pockets.

This outfit enables the operator of the machine to sit in the seat of the truck and, by using the low speed, to wind the cable on the drum on the right rear wheel, thereby drawing the tractor up the grooved plank onto the body. The right rear wheel is jacked up. The tractor can be unloaded from the truck by the reverse pedal which unwinds the cable from the drum and backs the tractor down slowly. This body and loading device can also be used for drawing disabled tractors from inaccessible places or pulling automobiles from mud or sand holes.



Clark Truck Body in Use

By winding the cable on the drum on the right rear wheel the tractor is drawn up the grooved plank onto the body

Universal Displayors

A type of displayor, economizing in desk space or floor space, is being manufactured by the Universal Fixture Corp., 123 W. 23rd St., New York City. It is of especial interest to sales managers, production managers and engineers who require access to charts, maps or subject matter of importance, which otherwise would occupy much of the desk space or floor space. It allows the keeping before one always of charts, maps or blueprints, etc. This fixture can be had mounted on a stand to be set on the floor, or can be attached to the wall.

The one illustrated herewith is equipped with 10 wings, size 29 x 29 in., each wing being of polished steel tubing with electric welded steel channel frame on the inside. The filler is of asphaltum wall board. The metal parts are finished in double baked ebony enamel. The length of the Displayor overall is 4 ft. 7 in., depth 31 in. Similar types can be had to hold additional or fewer wings.



The Chart Displayor in Use

This is one of the types of the Universal Displayor to economize in desk space. It is especially useful to sales managers and engineers.

Boe Crank-Operated Grease Pump

An addition to the Boe line of combination grease and oil guns is the new repeater, crank-operated, grease and oil pump. This is similar to the automatic air pressure grease and oil guns. Lubricants used in this new pump are discharged and accurately measured, simply by turning the crank.

One of the features of this new product is that its measuring is not dependent upon the pump stroke. The 5-in. meter dial is furnished with the pump and this concern states that measuring is so accurate that it will pass State weight and measure inspection. It is plainly readable and shows either pounds or pints according to the consistency of the lubricant dispensed.

The new pump has but few moving parts. The barrel is made from highly finished 2⅜-in. steel tubing and the pump plunger from the best pump leather, reinforced with spring brass cups which, together with the powerful pump action, make the handling of any ordinary gear lubricant easy. The valves are larger



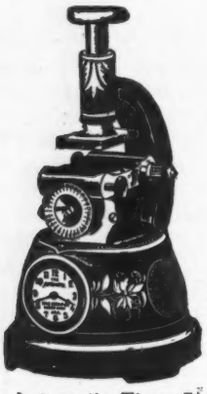
The Boe Grease Pump

Showing the crank-operated grease and oil pump, just being marketed by the Boe Company. It can be furnished to measure grease by the pound or by the pint.

than the discharge pipe and hose and therefore do not become choked. The pumps are made in the following capacities: 25, 50 and 100 lb., and are numbered 1, 2 and 3 respectively. The prices are $25, $40 and $50.

Accurate Records With the Time Stamp

The Automatic Time Stamp Co., of 160 Congress St., Boston, Mass., is the manufacturer of the Automatic Time Stamp illustrated herewith. The illustration shows model No. 2. A device of this kind in the garage or repair shop promotes efficiency, in that it shows the profitable and unprofitable work and orders, and the relative competency of the employees. This device is simply constructed and of good material. The clock is heavily jewelled and is specially designed for this purpose. It is manufactured by the Seth Thomas Clock Co. The prices of the automatic time stamp vary with the imprints and equipment required.

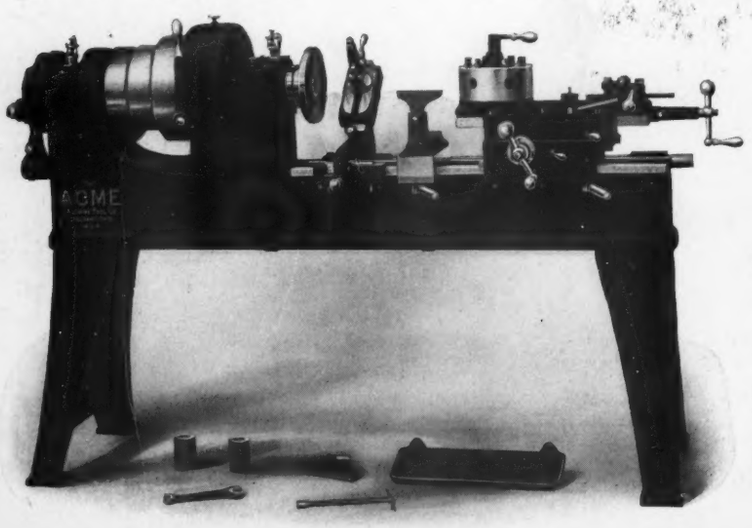


The Automatic Time Stamp

The Cincinnati Acme Repair and Jobbing Lathe

The Universal Turret Lathes, manufactured by the Acme Machine Tool Co., of Cincinnati, Ohio, are well adapted for general jobbing and repair work. These machines are made for use with high speed steel cutters. Bearings are accurately ground and hand scraped, and levers are within reach of the operator. The head is cast solid with the bed, insuring rigidity, and the friction back gears give two speeds for each cone step, for turning and threading, or turning different diameters on the same work without stopping the machine. All gears are entirely enclosed.

The spindle is of high carbon hammered crucible steel and is bored from the solid, ground and mounted in renewable bearings of babbitt. The turret slide is provided with swivel and set-over adjustments, and both lever and screw feed are furnished for the longitudinal movement of the slide.



Cincinnati Acme Universal Turret Lathe

This lathe is made in 16-in. and 18-in. sizes and is especially adapted for jobbing and repair work. It has a geared friction head.

The Parab-O-Light Lens

The Zorger Lens Co., of Champaign, Ill., is marketing the Parab-O-Light lens for automobile headlights. This lens, the maker states, utilizes the rays of light ordinarily wasted, by deflecting them to the roadway ahead, thus preventing the blinding of the oncoming driver's eyes. This concern is also marketing the Glar-Mask, a lens surrounding the bulb and producing the same effect as the Parab-O-Light. This was designed for those who do not wish to remove the plain glass front.



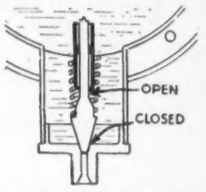
The Parab-O-Light Lens

This lens is designed to throw the wasted rays on the ground and is claimed to give an unusual amount of ground light.

The Parab-O-Light lens has a smooth exterior and attractive appearance. Its construction prevents the turning of the lens in the headlamp. A feature, the maker states, is that, with the front lens, this lens produces two half cone lights which fit into each other and so greatly increase the ground light, and give an intense sidelight as well. A second feature is that it produces with the bulb either forward or backward of center, a "spot light beam" at a distance of 1000 ft. The price of the Parab-O-Light lens is $3 and $4, according to size, anything up to 9 in. costing $3.

The Bear Primer

A device attachable to any engine and designed to measure and admit to the intake manifold a priming fluid, thus assisting in starting a cold engine, is being manufactured by the Bear Mfg. Co., of Rock Island, Ill.



Showing the Action of the Bear Primer

The feature of this primer is the self-measuring device. It gives the correct charge each time the engine is primed and distributes the gas or priming fluid to both ends of the manifold, close to the intake port. There is no pumping necessary, as the device works by gravity.

There is a double-acting needle valve within it, which, when raised, opens the bottom port and closes the top port, emptying the chamber, but not allowing any priming fluid to flow into it until the bottom valve is closed, whereupon the top opens, and it refills and is ready to prime the engine again. The price complete is $5.00.



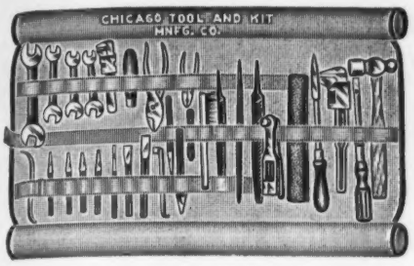
The Bear Primer

Tiger Grip Fabric Patch

A new outfit for repairing punctured inner tubes is being manufactured by Caplan Bros., of 77 Bedford St., Boston, Mass. It is known as the Tiger Grip Fabric Patch, and the patch comprises a strip of army cloth combined with vulcanized rubber and a facing. The outfit consists of a strip of patch, cement and emery paper. The space about the puncture is cleaned and roughened, the cement applied and allowed to dry and finally the fabric patch is applied firmly and evenly and the tube is ready for use. It is put up in three sizes, selling at $.35, $.50 and $1.

Chicago Tool Kit

The Chicago Tool & Kit Mfg. Co., Chicago, Ill., is marketing a complete line of tool kits, large and small, wrenches of all kinds and various types of chisels,



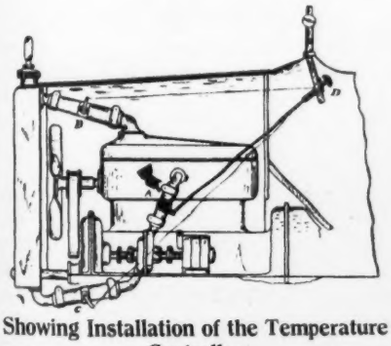
Chicago Tool Kit
This is the No. 7, a 30-piece garage repair kit, which is also useful for truck owners

screw drivers, jacks, etc. Among the tool kits is the No. 7, useful for garagemen or owners. It is a 30-piece tool kit, especially adaptable for the garage mechanic, and consists of an assortment of high grade tools. The tool roll is made of heavy brown duck and has adjustable web container and leather roll strap with a strong buckle. The price is $8.50.

Temperature Control for Engine

Realizing the desirability of controlling the temperature of an engine to obtain proper operation and economic running of automobiles, trucks and tractors, particularly with the lower grades of fuel that have to be used, the Automotive Devices Co., Randolph St., Detroit, has placed on the market a neat and efficient device for controlling the circulation of the water to regulate the temperature of the engine.

This device permits the motor to reach a temperature of 150 deg. shortly



Showing Installation of the Temperature Controller

after starting, because only the water within the engine has to be heated. The device can be regulated from the seat by the rod D, shown in the illustration, to control the temperature to any desired degree, regardless of atmospheric conditions.

Its use in conjunction with a Moto-meter is ideal. The Moto-meter indicates the temperature and the controller regulates the circulation.

It is easily installed on any car. The regulator may be placed in the hose pipe in position A, B or C, as shown in the illustration, the rod leading to the instrument board at D. The price complete is $5 retail.

Greyhound Products

The Camden Chemical Mfg. Co., of Camden, N. J., is offering the Greyhound line of products, including Greyhound soap, grease, body polish and radiator cement.

The Greyhound soap is pure white and wholesome, free from alkali; it leaves no greasy film after washing and lathers profusely in cold water.

The Greyhound grease provides a double lubricant. It can be used as a grease for cups or transmission.

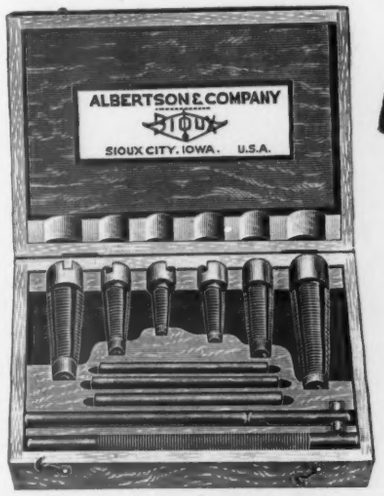
The Greyhound body polish is made to halt any depreciation of the wood work on a car. It gives a high polish and at



The Greyhound Radiator Cement
The Greyhound products are all put up neatly in cans or metal buckets. The accompanying illustration shows the Greyhound Radiator Cement container.

the same time will furnish a renewal of lustre.

The Greyhound radiator cement is poured into the radiator after being thoroughly flushed out, the engine being operated until the leak is stopped. It is then allowed to stand for several minutes. The contents of the circulating system are then emptied and filled with clean water. The maker states this will quickly cement over any small leaks and save considerable expense.



The Standard Bushing Remover Set
Consists of five sizes of bushing removers, and a remover for blind or pocket bushings

The General Cord Tire

The General Tire & Rubber Co., Akron, Ohio, is the manufacturer of the General Cord Tire, which is made in sizes from 32 x 3½ in. up to 40 x 8 in.

The tire is of two-cure construction, expanded on a specially constructed air



The General Cord Tire

bag instead of the usual steel core. Each cord is expanded equally and the tire is cured while the cords are thus stretched to the degree that inflation on the wheel would have stretched them.

Sioux Bushing Removers and Piston Rings

Albertson & Co., of Sioux City, Iowa, is marketing Sioux Piston Rings and Sioux Bushing Removers. The Sioux bushing removers are sold in complete set for $18.00, or each bushing remover can be purchased separately. A special set for Ford cars is offered at $10.75. The standard set, the first one mentioned, is for general shop use. It consists of bushings from ⅜ in. to 1 1-16 in., and will remove blind or pocket bushings. The Ford set accommodates bushings from ½-in. to 1 1-16 in. These tools are great time savers and expense reducers. The bushing remover is screwed into the bushing and will cut its own threads, giving a firm grip on the bushing. It is then driven out from the opposite end. For blind bushings No. 20 remover is screwed into the bushing and the center piece screwed down, this having a packscrew effect, thus removing the bushing.

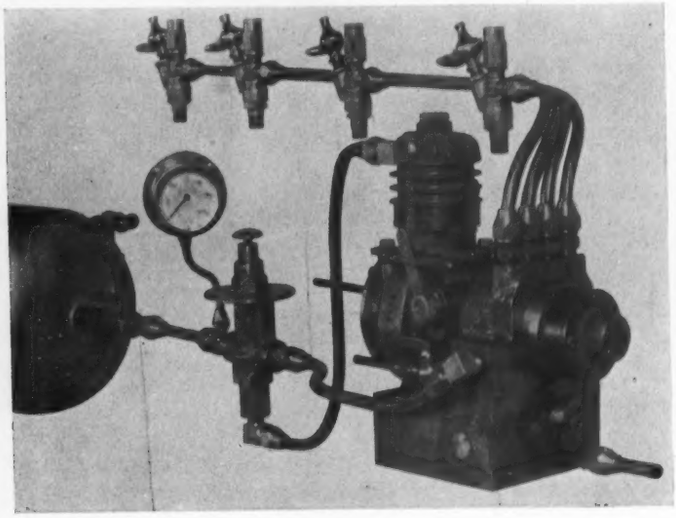
The Sioux Piston Rings are made of fine grain gray cast iron and heat-treated, and are guaranteed to conform to the cylinder wall. The finish is such that they wear in quickly. The joint is especially designed and is shown enlarged in the accompanying illustration. They retail at $1.25 to $1.50.



Sioux Piston Ring
The joint is shown enlarged to clearly illustrate its design

Lauson Tractors Are Fitted With Christensen Air Starters

THE John Lauson Mfg. Co., of New Holstein, Wis., announces that hereafter its tractor will be equipped with the Christensen air starter. Although this starter is well known to the motor truck, automobile and airplane trades, it is the first time that it has been applied to the tractor as regular equipment.



Showing the Parts of the Christensen Starter.

The air compressor, clutch for engaging and disengaging it, a special carburetor, in action only when the engine is started, and a distributor, are all located in the small, compact unit to the right.

The big feature of this starter is that the air which is used as a starting medium is not plain air but air mixed with gasoline, just as if it were delivered direct through the carburetor. In other words, it is a ready-made, ignitable mixture which is delivered under pressure to the cylinders and in firing order. This mixture being under compression, immediately starts the pistons moving downward. The spark then ignites the charge and starts the cycle of operation. The operation of the starter continues until the control-valve central button is released, when the self-starter ceases operating.

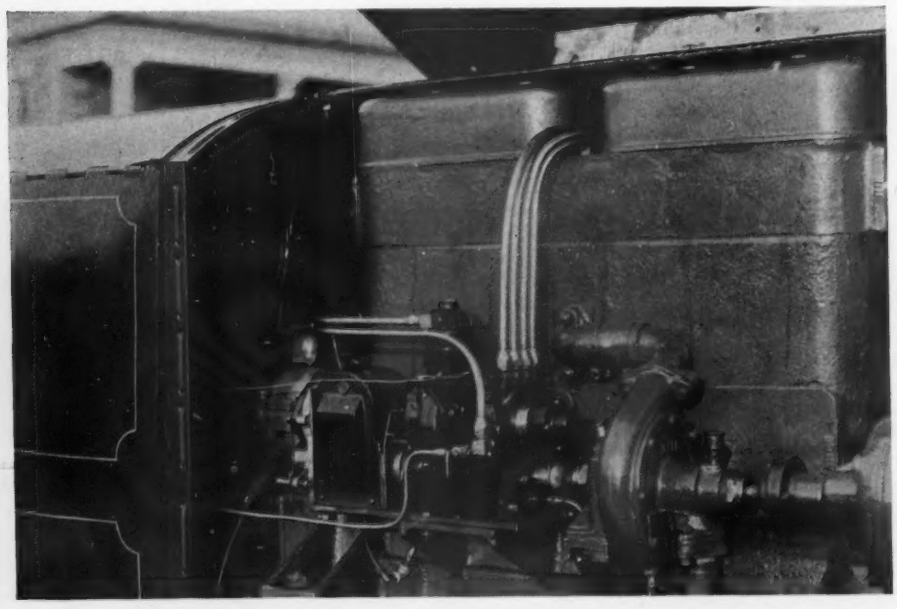
The complete outfit consists of a small, efficient air compressor, a clutch for engaging and disengaging it, a special carburetor independent from the engine carburetor, which is only in action when the engine is started; and a distributor, timed to deliver the charge to the cylinders in firing order. All these parts are in a small compact unit no larger than a magneto. Besides this, there is a control valve, the air gauge, the air tank, the tubing and the check valves to each cylinder. The control valve is placed in a convenient place on the dash, near the operator.

After setting the ignition switch the operator turns the handle of the starter control valve to the left and then presses the central button, which admits air into the starter carburetor, properly mixed with gasoline vapor. From there it is distributed to the cylinders in firing order. This action, of course, exhausts part of the air from the air tank and it is necessary to replenish this from time to time. Therefore, while the engine is running the operator turns the handle of the control valve to the opposite side and presses the central button. This sends air from the reservoir into the clutch mechanism and engages the compressor clutch. The action of the compressor automatically holds the clutch in engagement until the lever is again turned to the neutral position, which is, of course, after a sufficient pressure has been obtained.

With 250 pounds of air in the tank, the operator can make at least 15 starts without pumping up. Figuring that the operator starts the engine five times a day, it would only be once in three days that he would need to pump air.

The starter does not place any load on the engine, and does not take away any of its power. Nothing is working when air is not being pumped. The oiling of the starter is automatically taken care of by the engine lubrication system.

Another feature of this starter system, which appeals to the farmer who owns an automobile, is that the air from the air tank can be used for inflating automobile tires. All that is necessary is to connect a hose, press a button and in a very few seconds the tire is fully inflated.



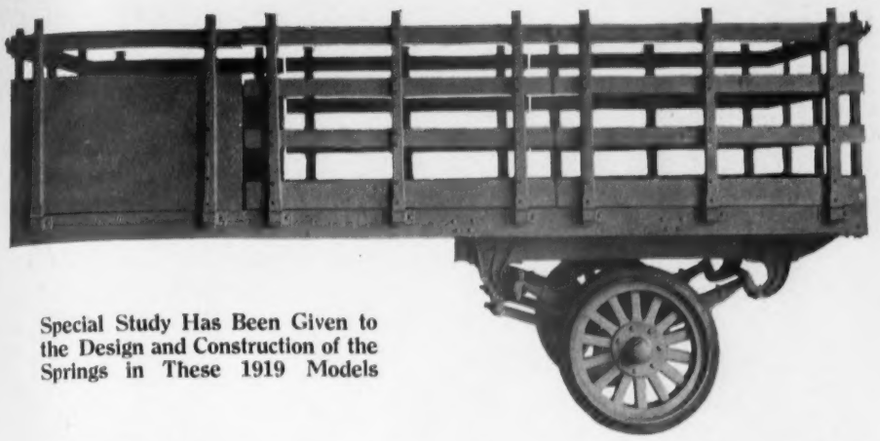
The Christensen Air Starter as it Appears on the Lauson Tractor

Improvements in Fruehauf Trailers for 1919

A number of improvements are shown in the Fruehauf line of semi- and four-wheel trailers for 1919, all tending to improve the construction from the standpoint of service and stability.

The frames of the 1919 semi-trailer models are exceptionally well constructed of structural steel channel. The corners are carefully riveted and gusseted. Cross members are well proportioned to the length of frame. The main frame is carried on a sub-frame to which is attached the steel spring hangers of original design.

Springs of special alloyed steel have been designed to carry the rated capacity easily. The Fruehauf Trailer Co., Detroit, Mich., has found by experience that large loads should be carried on springs that are flexible and responsive to the inequalities of the road. Springs of this type incorporated into trailer construction minimize the wear on tires and bearings and also reduce the upkeep upon the entire unit. It is also true that a well balanced load on flexible springs requires the least tractive effort to move



Special Study Has Been Given to the Design and Construction of the Springs in These 1919 Models

it. The spring shackles are made from special manganese steel and drop forged. The spring bolts are turned from solid stock, ground and heat treated, provision being made for oilers. These bolts are extra large and operate in steel bushings fixed in the shackles and springs. The entire spring suspension shows careful study of the needs of this type of transportation.

All units having a rated capacity greater than 4 tons are equipped with radius rods. These rods are of steel and fitted with hardened steel pins and bushings. The attachment is made at the lower end to a special bracket under the axle and at the upper end to a continuation of the forward spring hanger. The installation of these radius rods allows the springs to function without being subject to the strains required by drawing the load.

The semi-trailer models are built in four sizes, having a rated carrying capacity of 70 per cent. of 4, 6, 8, and 10 tons respectively.

In the Fruehauf four-wheel models steering knuckles are eliminated, and in their place is found a solid square axle. The axle, springs and wheels are suspended from a sub-frame or carriage which turns on twin circles and center plate. The object of this type of construction is to eliminate all side sway and compel trailer to follow the truck.

This type of construction permits the placing of springs close to the wheels and allows the wheels to "cut under" the trailer frame for a short turning radius. The entire design is so arranged that frames of any width can be installed. The four-wheel line is made up of four sizes, having a rated capacity of 1½, 3, 5 and 7 tons respectively.

Publications of Interest to the Trade

Motor Truck Handbook for Salesmen, by Chas. E. Stone, is a very concise compilation of a vast fund of information necessary to successful motor truck dealers. It gives, in tabulated form, the weights and measurements of various containers, empty, as well as filled, with commodities. Without this information salesmen have frequently been handicapped. It likewise gives the mathematical formulae necessary to determine the capacity of trucks. This is in pamphlet form, coat pocket size, and is so arranged that any information necessary can quickly be obtained. Published by Charles E. Stone, P. O. Box 1224, Detroit, Mich. (Price $.35). Mr. Stone has had sixteen years' experience in marketing commercial cars and knows just what the salesman needs.

Gasoline and Kerosene Carburetors, by Victor W. Pagé, M.E., is a new and up-to-date treatise on carburetion. It is a comprehesive, simple and authoritative discussion explaining the basic principles underlying carburetion. The leading types of carburetors are explained in detail with special attention to those adapted to the cheaper fuels. Carburetion and fuel system troubles, carburetor repairs and installation, electric primers and economizers, hot spark manifolds and all kinds of modern carburetor developments are treated in detail. The adjustment of all types of carburetors is thoroughly discussed. The discussions are accompanied by very complete, well-labeled diagrams. It is published by the Norman W. Henley Publishing Co., 2 West 45th St., N. Y. City. Price, $1.50.

Storing—Its Economic Aspects and Proper Methods, by H. B. Twyford, tells how to stop losses and leaks, how to prevent over-stocking and shortage, and how to keep a supply of raw material sufficient to keep all machines moving—questions which are constantly facing the manufacturer. There are certain definite principles which, if applied, will help solve these problems. All these principles, which are easily applied, are thoroughly explained in a very usable and readable manner in this volume. It contains clear, specific suggestions and examines the subject from every possible angle. It treats and illustrates the methods of eliminating confusion and extra work by the use of standardized methods. The advantages of various types of store room equipment are fully explained and specific illustrations given. Published by the D. Van Nostrand Company, 25 Park Place, N. Y. City, price $3.50.

Firestone Steel Products Company Adds to Personnel

The sales organization of the Firestone Steel Products Co., manufacturers of solid and pneumatic tire rims, bases for solid tires and S. A. E. bands, has been increased by the addition of three men prominent in the tire industry.

A. D. Droeger assumes the position of manufacturers' representative, in which capacity his duties will carry him throughout the entire country. Mr. Droeger has been a special representative of the United States Government, assigned between Washington and Chicago upon rubber requirements for trucks, airplanes, balloons, submarines and other war products.

C. W. Flick will cover eastern territory. He brings to his new connection the advantages of training received as assistant sales manager of the Mason Tire & Rubber Co. He also served for some time as assistant manager of pneumatic tire sales with the B. F. Goodrich Co., of Akron.

J. C. Bailey becomes western representative. Having a broad acquaintance with various manufacturing lines, his experience has been derived principally from his activities as city salesman and branch manager in Akron, Buffalo and elsewhere. Mr. Bailey comes from the Mason Tire & Rubber Co.

Ahlberg Building New Plant

CHICAGO, Jan. 24.—The Ahlberg Bearing Co. has broken ground for the erection of a new factory.

The new building will be located at 29th St. and Calumet Ave. It will be two stories high and constructed of steel and reinforced concrete, with a floor space of about 20,000 sq. ft.

Every detail that will tend to make the employees comfortable has been taken care of, lunch room, shower baths, private lockers, etc., being included.

The first floor has been laid out with salesroom in the front and large stock room adjoining. Next will come the shop, in which new machines will be installed. Provisions have been made for a hardening plant also. The executive and general offices will occupy the second floor and a garage will be erected in the rear of the plant in order that customers can secure service when desired.

The new plant will be ready for occupancy in the latter part of February. The plant now occupied by the company is located at 2636 Michigan Ave.

The Truck an Indispensable Factor to the Big New England Mills

By SAMUEL SAYWARD

THERE is some work about the factory that we find horses better adapted for than motor trucks," said Fred E. Batcheller, purchasing agent of the Pacific Mills in Lawrence, Mass., about a year ago, in discussing the use of motor trucks in handling the transportation of the big mills of New England. "About the only place that we use horses is in the carrying of coal to the power house and hauling away the ashes."

A few days ago I saw Mr. Batcheller again. He showed me a photograph which is reproduced herewith. "There isn't a horse left in our stables," he said. "I thought horses could haul coal and ashes better than motor trucks, you remember. Well, I have changed my mind. Horses don't haul our coal and ashes any more. When we had to have fuel and have it quick, when coal bins were empty and the engineers were asking if the mills were to be shut down, there was just one way that we kept them going; motor trucks were used for hauling coal. Horses, railroads, steamships had all failed to get the fuel to us, but the motor trucks did it. And I may add, the motor trucks are still doing it; they are dumping coal into our bins and they are carrying away the ashes, two trucks doing more work than a whole stable full of horses and a score of drivers and helpers did before."

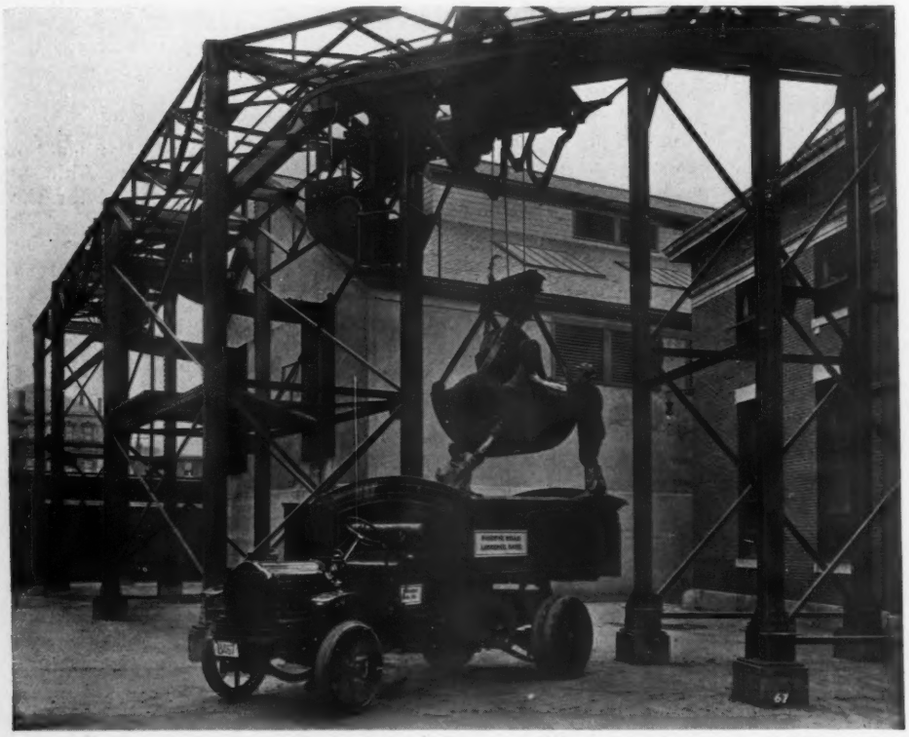
A steel framework has been constructed outside the power plant at the Pacific Mills and on this is a traveling crane. A power scoop loads a five-ton White dumping truck in three scoopfuls and the truck then carries the ashes to a dumping ground. Returning, loaded with coal, the truck backs onto a runway and, tipping by means of its own power, shoots the coal into the bins.

What is true at the Pacific Mills is true of all the large textile corporations in New England. The motor trucks have won the confidence of the mill men and they are in operation as a permanent fixture. During the next year or two, just as soon as the mills make certain where they stand in the reconstruction period, New England mills will be an excellent market for the motor truck.



Garage and Fleet of Trucks of Uswoco Mill of American Worsted Company, Lawrence, Mass.

Each truck has a chauffeur and helper. The helper soon becomes experienced in operating the truck, relieving the chauffeur on long trips or in emergencies. Trailers are used to advantage in the textile trade owing to the light weight of the materials hauled.



Removing Ashes at the Pacific Mills, Lawrence, Mass.

Motor trucks have replaced horses in hauling raw and finished products to and from the mill. Two White five-ton dump-trucks replaced the last of the horse-drawn vehicles used by the company

War conditions brought about situations never before faced by the cotton and woolen industries. They had always had plenty of coal, plenty of empty freight cars for shipping goods, plenty of rail facilities, and while there may have been some delay in obtaining raw materials and in delivering shipments of goods to destination points over the railroads, the delays were nothing serious and were looked upon as a part of business conditions which were inevitable: inevitable because the same conditions faced every other manufacturer of cotton and wool and had to be reckoned with as part of the chances of business.

Ask a mill traffic agent what it costs to operate a motor truck, what advantages he gains; try to pin him down to a dollar and cents basis and he will not talk dollars and cents but hundreds and thousands of dollars—not in cost of operation, but in actual money saving and "performance."

The traffic manager of one of the largest textile companies in the world, who

declined to have either his name or that of his concern mentioned, said:

"We were satisfied to use railroads for shipping our goods. Sometimes they used up a lot of time. Almost always some of the raw materials and finished goods were damaged and we had several men constantly employed on our claims. Freight rates were raised and express rates went skyward. Still we did not complain.

"Then came a time when we couldn't get our shipments of raw materials. We had further difficulty in buying raw stocks. We couldn't get freight cars to ship the finished goods in. We had rush contracts but we couldn't rush them.

"Everybody in our line of work faced the same conditions. We went out and hired trucks. Everybody else was hiring motor trucks and the rates were high, but we had to do it. We paid what we believed were big prices for moving our freight. We were careful to have return loads from other points and if we sent a train of trucks with a shipment of goods to some point, we had the same trucks bring back raw materials or supplies.

Saved Money Even When Trucks Were Hired

"When I went over the bills for this outside trucking at the end of the first month, I decided that I had made an error in calculation. I went over the bills week by week as time went on and finally convinced myself that I was not in error but that I had exercised poor judgment in former times. I made this discovery: I was saving money by using motor trucks, hired in open competition for emergency work. I was paying more than many other mills, but I had saved—well, I had saved a big amount of money in two months over what it would have cost me in ordinary times to have moved the same amount of freight the same distance by railroads. I figured it out on a percentage basis and I found that I had taken goods from our mills, transported them over many miles of highway and delivered them at their destination, under the most adverse conditions of motor hauling, for just what it would have cost me to load them on a freight car and pay the freight charges to the freight houses in the city where they were to be delivered. I saved, on every shipment, what it would have cost me to load them from the freight houses and deliver them to the purchaser. That may not sound like much of a saving, but when you are moving thousands of tons every month, it meant that I could put into a little fund those extra hundreds and thousands of dollars and just as soon as we can break in chauffeurs and can buy trucks, you would not have to guess more than once to know what that fund will be used for."

The United States Worsted Co., operating mills in many sections of Massachusetts, has a fleet of trucks including Pierce - Arrows, Packards, Peerless, Whites and others.

"Our trucks kept our mills going last winter," said Superintendent E. S. Wells, of the Uswoco Mills of the United States Worsted Co., Lawrence, Mass. They hauled the coal, hauled the ashes, brought raw materials from other points, carried the partially completed materials from mill to mill. They even carried help occasionally when one mill was shorthanded and had a large amount of material in process of manufacture.

No Goods Lost in Transit

"We can operate our trucks at a cost less than the actual freight costs," Superintendent Wells declares. "But that is only a small part of the credit due our trucks. We have made rush deliveries in record time. We have never lost a cent's worth of material in transit, therefore we have never had money tied up in claims against transportation companies nor have we had to buy duplicate orders of raw stocks to take the place of damaged goods. More than that, we have been able, because of the ease of transporting raw stocks and materials in process from mill to mill, to greatly reduce the stocks which we needed to have on hand, an item alone, which, figured at six per cent. interest, puts $21,000 per year to the credit of our trucks. We started operating trucks in 1910. We have increased our fleet of trucks every year."

At the Arlington Mills, in Lawrence, whole freight trains are left at a time to be unloaded. Some days there may be only half a dozen cars; other days there may be 40 or 50 cars. All must be unloaded promptly to save demurrage charges. The traffic manager used to go into the open market and hire truckmen when the rush came. That time has gone by. The Arlington Mills have bought a fleet of trucks and they do the unloading without delay. When they are not unloading or loading freight trains, they are scurrying over the roads with loads to deliver, bringing supplies or transferring materials in process to the many mills of this corporation located throughout New England.

No section of the country has any more variable weather conditions to contend with; no section has any more irregular topography, no section has any more adverse transportation conditions with which to cope than the operator of a motor truck in New England. Yet the record for performance is a clean one. The trucks are operating this winter the same as last winter. Last winter the first New England blizzard came just before Christmas and there was not a single thaw in the weather until early in April, while the thermometer, for days at a time, in raw easterly winds, was from 10 to 20 degrees below the zero point. And in all this period, with railroads crippled by storms, with heatless days and coal unobtainable, the trucks of the textile industry performed their work and performed it on time.

Pierce Adds to Plant

The Pierce Governor Co. has recently completed a two-story, brick addition to its factory which adds 5000 sq. ft. of floor space to its plant. The new addition will be used for storing raw material and finished parts, and the tool making and pattern making departments will be moved into it. This will release considerable space in the main factory building for the additional machinery and assembly benches necessitated by the rapidly growing business of the company.



Wayne County Believes in Good Roads as Well as Good Appearing Roads

Wayne County, Michigan, the pioneer in construction of permanent highways, is also a pioneer in the beautifying of its highways. This is clearly indicated in the accompanying illustration, showing its maintenance crew in the act of removing all unsightly signs from the trees bordering its road. This work is being done under the direction of Edward N. Hines, Chairman of the Board of Highway Commissioners.

Agitate the Motorization of Your City's Fire Department

Wilkes-Barre, Pa., Shows Lowest per Capita Fire Loss as Result of Motor Equipment. Maintenance Cost of Department Greatly Reduced. Reasons for Such Saving

By W. A. KIRKPATRICK

BACK in 1909 the fire chief of Wilkes-Barre, Pa., acquired an automobile. He used it instead of the horse and buggy the city provided in responding to alarms. At the end of the year one fact stood out very prominently—the automobile cost less than the buggy and its efficiency was much greater. Then came the logical result—the fire department should be motor-driven.

The newspapers were used as the great medium for educating the people. In 1910, a Pope-Hartford combination truck was acquired. It served so well that in 1913, three additional motor vehicles were installed. At the present time there are but two horse-driven pieces of apparatus in the department and the present fire chief, Frank Hochreiter, expects to eliminate these during 1919, so that the entire department will be motorized and modern in every detail.

The most convincing proof of the value of motor equipment in the fire department of any city is found in the cost figures which are kept by the Wilkes-Barre department. These figures are published every year and no more conclusive proof is needed to show the advisability of a motorized fire department. For instance, in 1915 the fire chief, in the annual report, said that "the more motor apparatus the city has in its fire department the more money it will save, so great is the saving over horse-drawn apparatus." And the figures prove the truth of the statement.

The cost of keeping horses during that year was $3705.11, compared to $589.11, the cost of the motor equipment. The saving was $3116.00. In other words, the horses cost over six times as much as the motors. There were 16 horses in use and 13 pieces of motor apparatus. To determine the saving between keeping a team of horses and a piece of motor apparatus, the bureau kept a record of the expense of the hardest working team and the most-used motor apparatus. The team cost $38.60 per month or $463.20 for one year. The cost of the truck-tractor for that year was $15.66. These figures are taken from the fire department's report for 1915 and are entirely reliable. In the face of such a record of expense, it seems that nothing but sinister influence would delay the motorization of any city's fire department, if it were for nothing but the saving in expense. But many other reasons strengthen the position of the advocate of motorization.

Speedy Response Lowers Fire Losses

With motor equipment, when a call comes in, the engine is cranked and the ponderous motors rumble out and siren their way to the scene of the fire in such quick time that before the fire is really started the water and chemicals are playing on it. As a direct result of this feature of speed the fire losses in Wilkes-Barre have shrunk until they are the lowest per capita of any city of similar size and of many twice the size in the United States—the loss per head being less than 66 cents according to the estimates of the Bureau of Fire Underwriters.

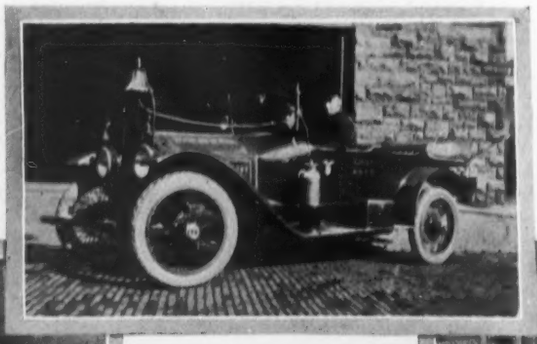
Another advantage that tends to reduce fire loss is the saving in labor. With the old horse-drawn steam engine, three men were needed to operate the engine when at the fire. The engineer had charge of the engine, a stoker kept the fire going and the driver blanketed the horses and walked them up and down. The care of the horses applied to the other wagons, also. Now the chauffeur runs the engine and pump and the services of the two other men are used in fighting the fire, which promotes efficiency.

No Expense When Not Working

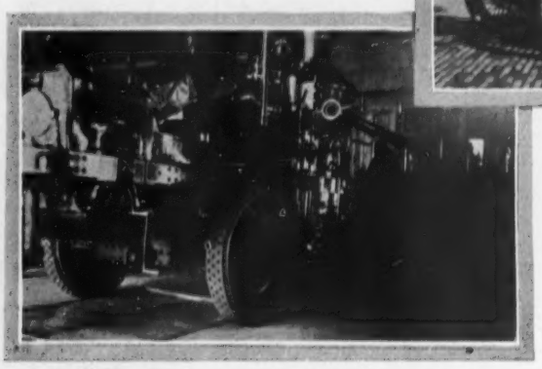
One of the greatest features in favor of motor equipment in point of maintenance cost is the fact that while the engine is in the fire house there is no expense. On the horse, however, money must be continually spent for feed, bedding, etc., whether he works or not. When this is considered, the cost figures given above can be readily believed. Sometimes, for months a motor will not be called into action and the only expense during this period is the cost of about a gallon of gasoline per month, consumed in running the engine every morning for a few minutes to make sure everything is all right. Anyone can picture the cost of feeding two horses for this period and realize the great difference.

During 1916, the cost of maintaining only five pieces of horse-drawn apparatus, including everything purchased, was $3008.57. The cost of maintaining fourteen pieces of motor apparatus, including all supplied, was $1852.82, or $1155.75 less than the cost of the five horse-drawn vehicles. The cost of the horse-drawn equipment does not include wear and tear on the floors and stalls.

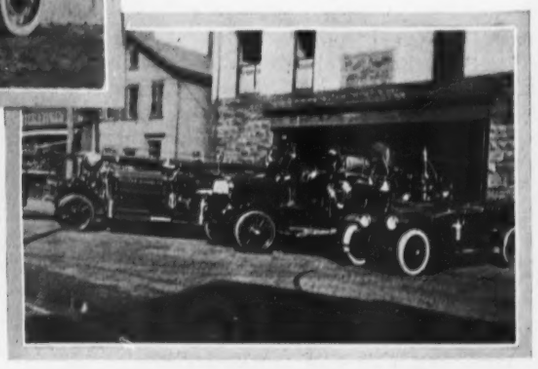
In 1917, when part of the mo-



The Fire Chief, Frank Hochreiter, in His Stutz, Which Carries Light Fire-Fighting Equipment



Close-up of One of the Christy Tractors on a Horse-Drawn Engine



A Group of the Motorized Fire-Fighting Apparatus Used by Wilkes-Barre

tor apparatus had been in use for four years and depreciation was greater, the cost figures continue to favor the modern equipment to a marked degree.

Ten horses cost $2786.68 during 1917, or $23.22 per month each. The motor equipment has increased to 14 pieces, which cost $2150.48 for the year. This included rebuilding the engine in one of the tractor-trucks. The importance of these figures can be appreciated when one remembers that ten horses represent about five pieces of fire equipment, and the cost of these compared to the cost of fourteen pieces of motor equipment was twice as much, excluding the cost of rebuilding the engine in the tractor. On this basis, each piece of motor apparatus cost $10.27 per month to maintain—one horse cost $23.22 for the same period, or $12.95 more.

The detailed report of these expenses may be of interest.

Maintenance Cost of Ten Horses.

60,517 lb. of hay	$ 621.78
2,029 bu. of oats	1,507.95
17,916 lb. straw	160.98
400 lb. of bran	8.39
Shoeing	426.40
Veterinary services	34.50
Salt Bricks	8.40
Harness Repairs	18.28
Total	$2,786.68

Fourteen Motor Fire-Trucks.

2057 gal. gasoline	$ 489.48
Repairs, general	1,192.52
Rebuilding motor in No. 1 tractor..	425.00
98 gal. cylinder oil	43.48
Total	$2,150.48

The fire chief is planning to eliminate much of the repair expense by adding an expert motor-truck mechanic to his force and having a well-stocked repair shop to take care of all repair work and eliminate costly outside work.

The fourteen motor-trucks traveled 5427 miles during the year at a cost of 32 cents per mile, which is very reasonable in view of the fact that each truck weighs over six tons. Included in this rate per mile is the cost of running the engines idle every morning and the training of new drivers.

When horses are used it is necessary to appropriate several hundred dollars per year for floor and stall replacement. The sharp iron shoes dig up the floors and stalls in the engine house so that it is necessary to replace the floors about once a year and the stalls twice. The cost is considerable, because heavy oak planking is used. With motor equipment this expense is practically eliminated.

The Pope-Hartford motor vehicle acquired in 1910 is still on the job in good condition, but is used only in emergency because the company that made the machine is no longer in business and should a breakdown occur parts for repair and replacement could not be obtained. This is to be overcome during 1919 by purchasing a chassis and transferring the fire equipment from the Pope-Hartford to the new chassis. The latest additions to the department's equipment are three very modern Ahrens-Fox motor-propelled gasoline-pumping engines which are expected to greatly increase the efficiency of the fire department, as well as reduce the maintenance cost formerly incurred in keeping the horses.

The fire chief has a Stutz combination machine used by him and by the flying squadron, which he considers one of the most valuable machines in the department. It answers all calls and its purpose is to get to the fires before the heavier apparatus, and, if possible, extinguish the blaze before it gets a big start. Up to 1916, the machine extinguished no less than 15 fires before the other trucks arrived. It carries a chemical tank and other fire-fighting equipment and has room for several firemen, who accompany the chief when he answers a call.

One of the reports of the fire chief contains this interesting paragraph:

"It is said by some that while the cost of keeping a piece of motor apparatus is less than that of keeping a team of horses, there is always depreciation in the motor equipment. This is true, but when it is considered that fire apparatus is rarely used and with men on hand to always keep them in the best of condition, there is no reason why a piece of motor apparatus should not last for fifty years, unless a machine is wrecked in an accident."

Wilkes-Barre is a city of some 77,000 people and the record of what a motorized fire department means to a city of this size opens up a vision of the great need of motor equipment in the fire departments throughout the country, and also impresses us with the importance of the place the motor truck is taking in our industrial and civil life.

Manganese Ore Located in Oregon

The United States Geological Survey, Department of the Interior, has located more than 250,000 tons of manganese ore in Jackson County, Oregon. Experts connected with the department have been examining deposits.

A Well Stocked and Efficiently Managed Parts Department

WITH the exception of those kindred spirits on Gasoline Row, and scores of Mack and Service truck owners who know all about the big establishment at 1000 Pike Street—few people even in Seattle realize that the T. G. Young stock room in that city is known among truck dealers and manufacturers throughout the country to contain one of the largest assortments of motor truck auxiliary equipment west of New York.

A tour of inspection into the immense stock room, occupying 10,000 sq. ft. of floor space, reveals rows upon rows of partitions extending from floor to ceiling, and tier upon tier of sub-partitions containing parts of every size, shape and description — thousands of them — each one numbered and tabulated, ready to be shipped on emergency orders at a moment's notice.

To one unaccustomed to the vast number of large and small parts that enter into the construction of motor equipment the T. G. Young stock room is a revelation.

There are parts for all styles of Mack, Saurer and Service trucks, for Lauson farm tractors, Troy trailers, and Lee loaders. There are parts as small as a cotter pin or a single half link for a broken chain, and as large as 900-lb. axles or 1200-lb. engines. One section of the stock room is entirely filled with racks and platforms supporting the heavier parts such as wheels, fenders, springs, spring leaves and drive shafts.

One of the most interesting features is an imposing collection of roller and ball bearings which alone are valued at more than $25,000. In fact, T. G. Young is said to carry a larger supply of bearings than any of the regular bearing



The T. G. Young Stock Room Covers Ten Thousand Square Feet of Floor Space

There are parts as small as a cotter pin and as large as nine hundred pound axles. One of the most interesting features is a collection of ball bearings valued at more than $25,000



Another View of the Interior of the T. G. Young Stock Room
Each part is numbered and tabulated, ready to be shipped at a moment's notice

service stations in the country, and was recently called upon to ship 2800 bearings to New York—an order which was filled from the large supply on hand.

In these days of delayed deliveries, the fact that extra parts can be supplied immediately by one's dealer is an important point to be considered in buying motor equipment—especially significant to the truck owners to whom an idle truck means delayed contracts and resulting losses, or to the busy farmer who must keep his tractor on the job always or fail in his quota of food production.

Illustrating the advantages of ready service facilities, in the case of unforeseen accidents, was a recent phone order from a Mack truck owner living east of the mountains. The phone message regarding a broken rear axle was received by T. G. Young at 8.30 A. M., and within twenty minutes the necessary parts for adjusting the difficulty were on their way to the nine o'clock train.

After a long continuance of such service, it is little wonder that the T. G. Young organization has become famous as "The House Behind the Truck," and that the Young patrons throughout Washington, Idaho and Montana are constantly showing their appreciation by sending in repeat orders.

Communal Control of Automobile Deliveries

By L. M. MEYRICK-JONES

LONDON, Jan. 10.—The British Road Transport Board has issued an instruction directing that the delivering of goods by a retail tradesman to a customer by a vehicle which is not used mainly in agriculture, shall be limited to a place not more than ten miles from where the goods were loaded. Tradesmen in the London police districts, however, may deliver to customers within these districts, even if the delivery exceeds ten miles; moreover, these limits do not apply where the means of transport by rail or common carrier do not exist.

Although not formed for such purposes, the Road Transport Board by mobilizing and co-ordinating in certain districts the transport of perishables, such as foodstuffs, was enabled to do valuable service to the country during the recent railway strike. The consequences of a railway strike in any country may be so grave for the community that the emergency organization of road transport calls for very serious consideration by every government, and although one may not wish to see any unnecessary prolongation of governmental interference with private enterprise, it is worth asking whether the machinery of national organization of motor transport, which has been called into being by the war, may not, by judicious modification, be preserved for purposes of such emergency.

Soldiers Anxious to Enter Truck Business

NEW YORK, Jan. 22.—Soldiers seeking positions with truck dealers or endeavoring to find work as operators are increasing in number. There is hardly a dealer who is not visited daily by dozens of unemployed soldiers. Many applicants state they are experienced truck drivers and some say they have driven trucks abroad. Others apply for salesmen's positions and some are willing to do clerical work. Mechanics are included among the applicants.

The majority of the soldiers are not local boys but from the Middle West and West, and it is evident that the big city appeals to them, hence their attempts to find work here. In a number of truck agencies the waiting list for the few positions open as drivers, etc., were speedily filled by the early arrivals discharged at this port. Some idea of the number of unemployed soldiers seeking work here may be obtained from the statement of an official of a society rendering aid to discharged soldiers and sailors. He said that there are 50,000 in the city at the present time and the number is constantly increasing.

Whenever possible, the truck dealers are giving employment to these men and several dealers have placed them ahead of civilians registered for positions as drivers, mechanics, etc. The search for work is not confined alone to the enlisted men, but to officers, many of whom were earning large salaries previous to the war.

Standard Parts Lines Up Organization for Peace-Time Work

In placing its operations on a peace-time basis The Standard Parts Co. has reinstated the plan of separate general management for its various plants. This method replaces the centralizing of all activities in the general offices, which was made necessary during the war. The executive and supervisory offices, credits, collections, disbursements and contracting for the larger material supplies will remain in the general offices.

The several plants will be under general managers as follows: Standard welding plant, H. H. Newsom; Perfection spring plant, F. F. Grimmelsman; Bock bearing plant, George H. Kleinert; American axle and Cincinnati, axle plants, both producing Stan-Par axles, D. K. Moore, with headquarters in Cleveland; Canton spring and Canton forge plants, J. B. Childe; Connersville spring and axle and Wheeling axle plants, E. V. Overman, with headquarters in Cincinnati; Pontiac spring plant, B. A. Litchfield; Flint spring plant, R. T. Armstrong; St. Louis spring plant, N. B. Champ; Perfection Heater plant and spring jobbing division, B. R. Winborn.

NEW COMMERCIAL CARS

Day-Elder Adds Two New Models to Its Line

IN order give to its dealers a complete line of models, to meet all haulage conditions where trucks from one to six tons are required, the Day Elder Motor Corporation, of Newark, N. J., has recently completed its line by the addition of a model "D," 2 to 2½ tons capacity and a model "F," 3½ to 4 tons capacity. These, as well as all the other models made by this company, are worm driven. The wheelbase of model "D" is 144 in., while the wheelbase of model "F" is furnished in two lengths, 150 in. regular; 165 in. optional. The price of model "D" is $2450 and the model "F" $3450.

The details of the model "D" are as follows: The engine is a Continental "Red Seal," four-cylinder, 4⅛-in. bore, 5¼-in. stroke, rated at 27.2 hp. Carburetion is taken care of by the Zenith fitted with a special hot air intake. A shut-off shutter provides easy starting in cold weather. Lubrication is by combination force feed and splash system and ignition is by Berling high tension magneto. A 20-gal. capacity gasoline tank is located under the seat.

The radiator is a Bush cast-tank, built up sectional type, fitted with vertical flat copper tubes and copper fins. The clutch is a Borg & Beck dry plate while the transmission is a Covert selective type three speed forward. The transmission is attached to the engine by bell housing, power being conveyed to the rear axle by a divided driving shaft, fitted with three grease packed universal joints.

The rear axle contains a David-Brown type worm and gear; the entire weight of the truck being carried on a heavy ribbed housing of tubular construction. The worm gear and axle can be assembled without removing axle from under the truck. Two sets of brakes are provided on the rear axle, one operated by foot pedal and one by hand lever.

The frame is a Driggs-Seabury pressed steel, 5⅝ in. depth, 3-16-in. thickness and 3½-in. flange. Springs are semi-elliptic front and rear. Front springs have 10 leaves each, width 2¼ in., length 40 in. The rear springs have 15 leaves, width 2½ in., length 54 in. All are bronze bushed. As the Hotchkiss form of drive is employed the two top leaves of each spring are wrapped around the spring eye. All spring leaves are formed at the center bolt with government specification type cup, which holds spring and axle in perfect relation with each other.

The tires are solid, 36 x 4 front, 36 x 6 rear, pressed on. Tread is 56 in. front and rear. The weight of the chassis is 3650 lb.; the carrying capacity of the chassis, including weight of body, is 6000 lb.

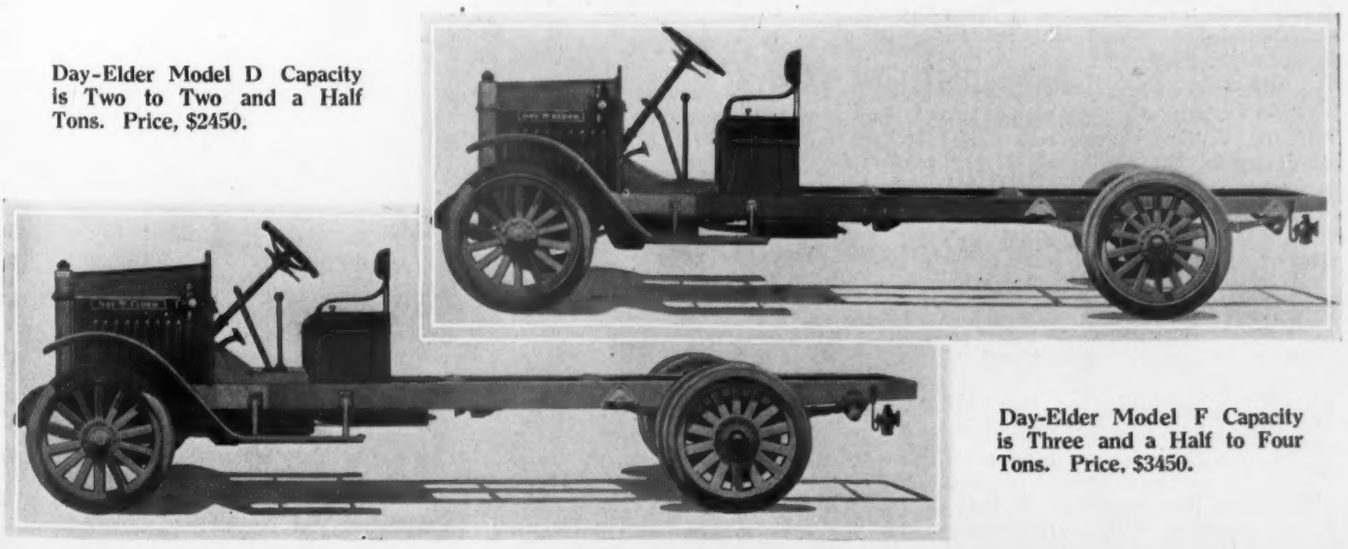
The chassis measurements are as follows: Length over all 203 in., width over all 67 in., dash to rear of frame 160 in.; rear of seat to rear of frame 118 in.; extreme width of frame 35 in.; height to top of frame from ground loaded 30 in.; width of driver's seat 51 in.; depth of driver's seat 20 in. over all, seat to dash 22 in.

The specifications of the model "F," 3½ to 4-ton capacity, are identical with the 2 to 2½-ton model, with the following exceptions: Engine is a Continental "Red Seal," 4½ in. bore, 5½ in. stroke, 32.4 hp. Frame is 6½ in. deep, ¼-in. thickness, 4-in. flange. Front springs, 11 leaves, width 2½ in., length 42 in.; rear, 16 leaves, width 3 in., length 56 in. Tires are solid, front 36 x 5, rear 36 x 5 dual. Transmission is a Brown-Lipe selective type, four-speed. Tread of this model is 56 in. front and 59 in. rear. Chassis weight is 5600 lb. and the carrying capacity, including weight of body, is 9000 lb.

The equipment of both models includes two oil side lamps, one tail lamp, mechanical warning signal, oil can, jack and complete set of tools.

New Company to Make Four-Wheel Drive Truck

The Rogers Una-Drive Motor Truck Corp. has been formed at Sunnyvale, Cal., and will manufacture a new type of four-wheel drive truck. This company has purchased the plant of the Goldy Machine Works and expects soon to be in production. The main feature of design is the simple type of drive employed on the front axle. It resembles the rear full-floating type, except that there is a toggle to allow for steering, enclosed inside a ball cast integral with the housing. Steering is accomplished through a socket fitting over the ball and held in place by two steering pins. The socket forms part of the front hub.



Day-Elder Model D Capacity is Two to Two and a Half Tons. Price, $2450.

Day-Elder Model F Capacity is Three and a Half to Four Tons. Price, $3450.

New Model Announced by Nelson

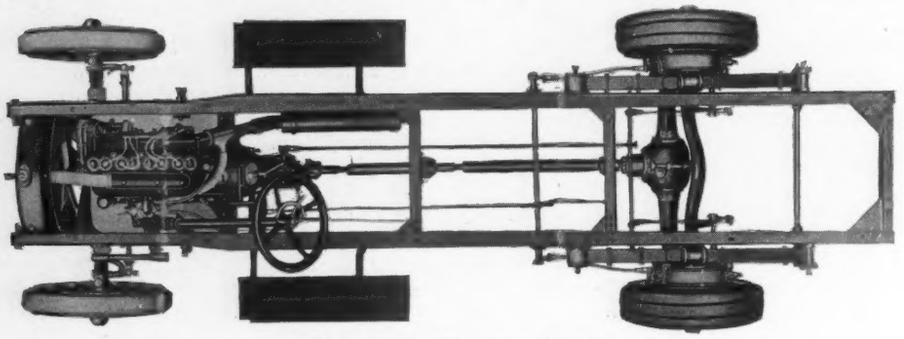
THE Nelson Motor Truck Company, Saginaw, Mich., announces a new two-ton Jumbo truck, Model B, for production beginning February 15th. In designing this new two-tonner, effort has been made to provide an unusually large factor of safety throughout, strength of construction and greater power being obtained through use of over-size units.

Brown-Lipe. The gear ratio has been increased to nine to one on high.

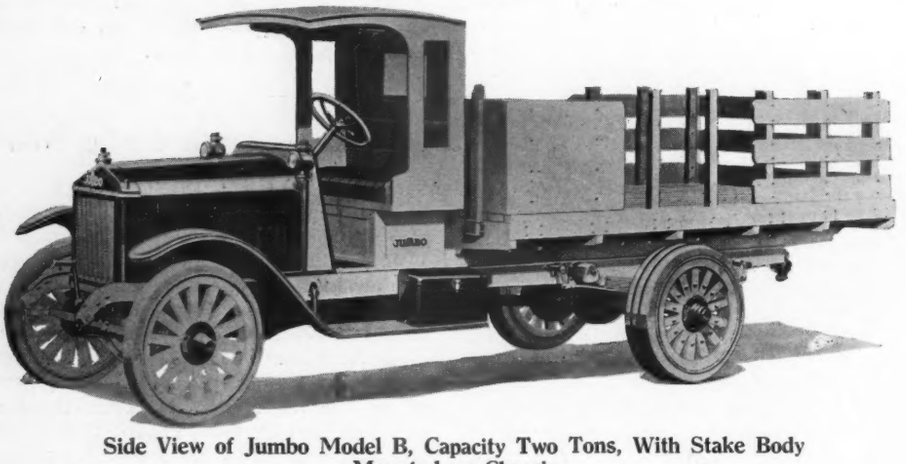
Thirty-six inch wheels are used as standard equipment. The rear tires are Firestone Giants, 36 x 7-in. solid, and the front tires 36 x 4-in. solid.

In connection with the development of the new Jumbo model, the Nelson Motor Truck Company announces that production will be standardized upon this one model, and that instead of supplying various sizes, the two-ton model will be furnished in three wheelbase lengths, standard 144 in., special long wheelbase of 168 in., and a short wheelbase of 108 in., which will convert the Jumbo two-tonner into a tractor for use with trailers. The company is planning on building semi-trailers in several sizes up to seven tons capacity.

The Jumbo two-ton standard chassis will list at $2500, f.o.b. factory, with short wheelbase optional. A new addition to the factory, now under way, will permit the production of about 1500 trucks this year and plans have been made accordingly.



Plan View of the New Model
A distinctive feature is the straight drive to the rear axle



Side View of Jumbo Model B, Capacity Two Tons, With Stake Body Mounted on Chassis

The Buda H. U. engine, 4¼-in. bore x 5½-in. stroke, is considerably larger than usually found in two-ton trucks, it being considered adequate power for trucks up to five tons capacity. The Fuller transmission in unit with the engine is correspondingly oversize.

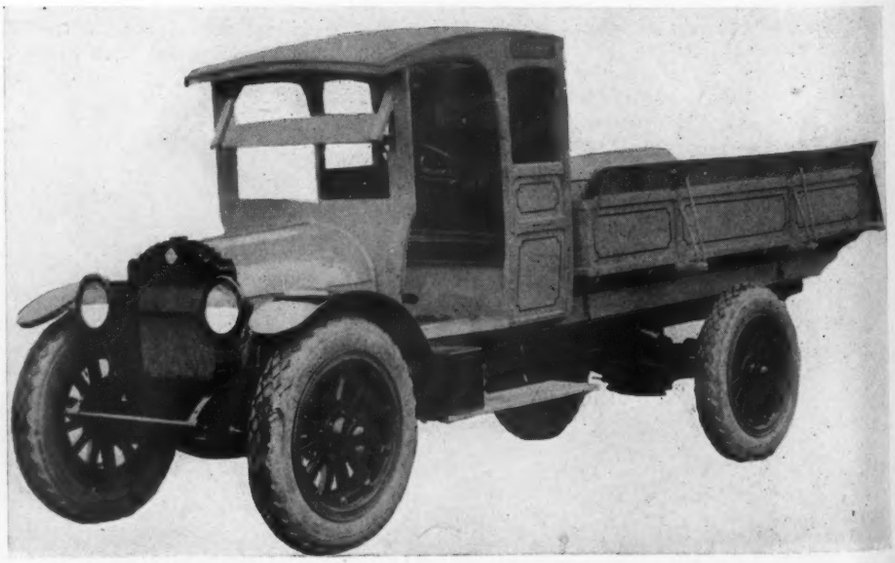
A distinctive feature of the new Jumbo two-ton truck is the straight, nearly horizontal, drive to the rear axle. In other words, the crankshaft of the engine is on a line with the propeller shaft when the truck is loaded. This is attained by placing the engine at a three degree angle. A three-joint propeller shaft, with intermediary universal, suspended by a fifth cross member, is so arranged as to provide a straight driveshaft and thereby eliminate any undue wear or strain on the bearings and universals, and provide the transmission of greater power by reducing friction.

The new Jumbo is equipped with the Clark internal gear axle, with chrome nickel steel, heat treated, solid load carrying member. The differential is

The Piedmont Model O Truck

The Piedmont Motor Car Co., of Lynchburg, Va., is manufacturing a model O one-ton truck and a model P 1½-ton truck. These models resemble one another in general specifications, the only differences being in dimensions.

The model O has a wheelbase of 130 in. It is equipped with a unit power plant, composed of a Lycoming engine of 3½-in. bore and 5-in. stroke, a Borg & Beck 10-in. disk clutch and a 3-speed selective type transmission with shaft operating on annular ball bearings. The carburetor used in this power plant is a Carter, fed with fuel by a Stewart-Warner vacuum system from a 20-gal. gasoline tank. The electrical equipment consists of a Dyneto starter with a distributor and Willard 6-volt battery. Lubrication of the engine is by force feed, and cooling by thermo-syphon. The wheels are of second growth hickory, artillery type, and upon them are mounted, on the front wheels, tires 33 x 4 pneumatic, and on the rear 33 x 4 solid or 34 x 6 pneumatic. The radiator is a Standard. Drive from the transmission to the rear axle is tubular shaft, equipped with Hartford joints. Equipment has electric head and tail lamps, electric horn, jack, tools, etc.



The Piedmont Model O One-Ton Truck

The Winther Internal-Gear Four-Wheel Drive Trucks

The New Winther Line Includes Seven Models, Ranging in Capacity From Three Thousand to Fourteen Thousand Pounds

IN announcing the new line of Winther four-wheel drive internal gear trucks, the Winther Auto Truck Co., of Kenosha, Wis., discloses seven new models. These new models are as follows: 438, 3,000 lb. capacity; 448, 4,000 lb.; 468, 6,000 lb.; 488, 8,000 lb.; 4108, 10,000 lb.; 4128, 12,000 lb.; 4148, 14,000 lb.

All of these models are of the same design, construction and workmanship, and vary only as to capacity and size. All have 4-cylinder engines, Eisemann magnetos furnishing ignition current.

The Model 438, One and a Half Ton

The engine in this model has four cylinders cast in block, L-head type, and develops 22.5 hp. It is water cooled, and a centrifugal pump is used to circulate the water. The engine has three main bearings and a piston 5 in. in length, each equipped with three rings. The valves are nickel steel and have a diameter of 1 11-16 in. The fan has 4 blades of pressed steel, and is mounted on ball bearings and adjustable bracket. The fan belt is V-shaped and made of leather.

Force feed of the oil through a hollow crankshaft distributes it to the bearings, the oil being pumped by a spur gear. Gasoline is fed by gravity from the tank located within the dash. The radiator is a copper tube type, with cast shell, and the clutch is a dry disc.

The governor on this model is of the hydraulic type.

The transmission is mounted in unit with the engine, together with the dry disc clutch. The auxiliary transmission is connected to it by a propeller shaft which transmits power to both front and rear axles. An M. & S. self-locking differential is mounted on the countershaft, allowing for different speeds for front and rear axles when turning. Both shafts are mounted on ball bearings and the mechanism is completely enclosed and operates in oil. Felt packings prevent oil leakage. A transmission brake is mounted on rear end of drive shaft.

The rear axle has internal gear drive with bevel differential gears. The brakes are 16 x 2 in. The bearings and gears all run in grease and are enclosed.

The front axle has the live axle enclosed in a housing on each end of which is a ball. The universal joint is within this ball, and connects the axle driving shaft with the internal gear driving pinion and permits of steering. Pins above and below the universal joint connect the live axle to the steering knuckle. Thus the live axle is tied to the steering knuckle at each wheel, and this acts as a tie rod, eliminating this member. The differential, housings, and all parts contained are interchangeable with those of the rear axle. The front axle is completely enclosed and equipped with an M. & S. self-locking differential.

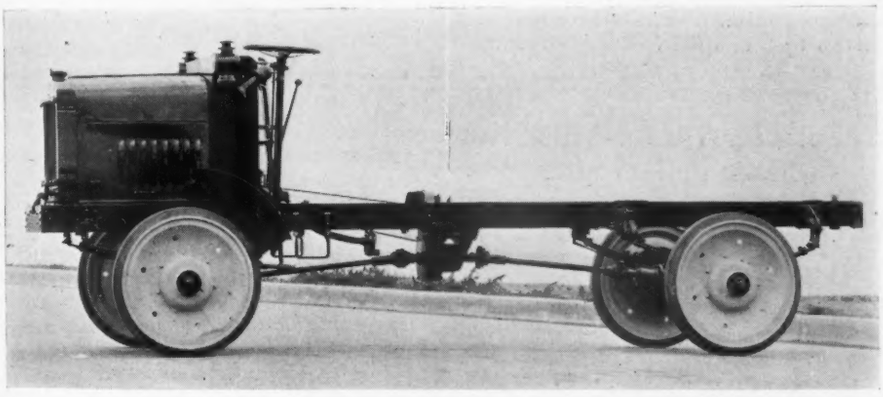
The frame is of 6 x 3-in. hot rolled channel. The springs are semi-elliptic, 40 x 2½ in. on the front and 48 x 2½ in. on the rear. The wheels are cast type for 34-in. tires, the latter being 4 in. wide. The tread is 56 in. The gear ratio on direct drive, or third speed from engine to wheels, is 6.8 to 1. The steering gear is a worm-and-split-nut type, with an 18-in. wheel, which is located on the left of the chassis.

This model steers on the front wheels and brakes on rear wheels and auxiliary transmission. The control levers are located in the center. The service brakes on the rear axle operate by foot pedal, the emergency by hand lever on the auxiliary transmission. There is no gear reduction or speed changes in this auxiliary transmission.

The equipment of the chassis includes side and tail lights, jack, tools, etc.

Specifications of Winther Models

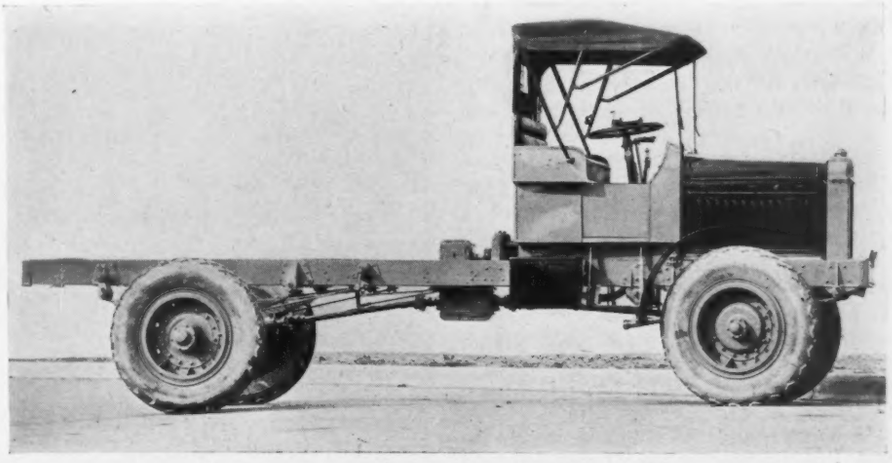
Model Number	Pounds Capacity	Chassis Price	Bore and Stroke	Carburetor	Clutch	Speeds Forward	Wheelbase	Front Tires	Rear Tires	Speed
4-38	3000	1995	3¾x5	Zen	10-in. Plates	3	132	34x4	34x4	17
4-48	4000	3500	4x6	Master	12-in. Plates	4	158	36x4	36x4D	15
4-68	6000	4500	4¼x6	Master	12-in. Plates	4	158	36x6	36x5D	13
4-88	8000	5000	4¼x6	Master	12-in. Plates	4	164	36x6	40x5D	11
4108	10000	5850	4¾x5½	Master	12-in. Plates	4	170	36x6	40x6D	10
4128	12000	6250	5⅛x6	Master	12-in. Plates	4	170	36x6	40x6D	10
4148	14000	6500	5⅛x6	Master	12-in. Plates	4	170	36x6	40x7D	10



Side View of the New Winther One and a Half Ton Four-Wheel Drive Truck

Model 4148, Seven Ton

The engine of this model is a four-cylinder, with an A. L. A. M. rating of 42

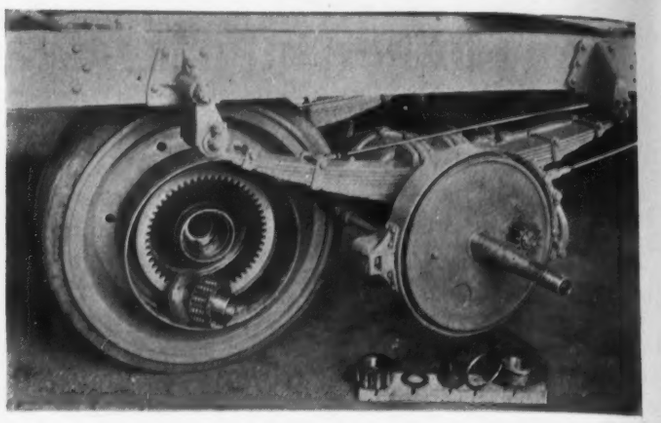


The New Winther Three-Ton Four-Wheel Drive Truck, Equipped With Pneumatic Tires

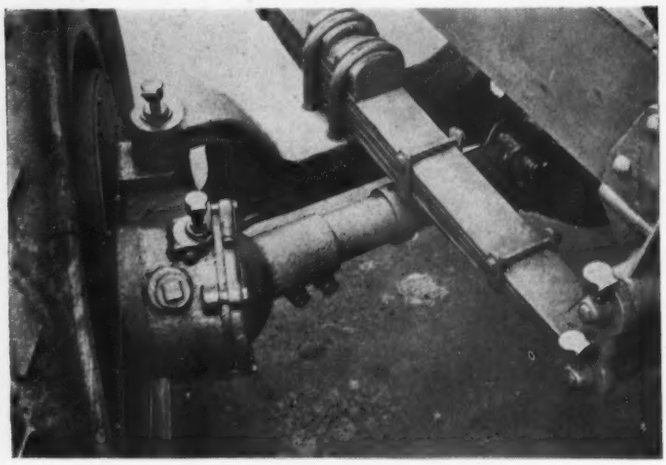
hp. The cylinders are cast in pairs and T-head in design. The engine has 3-point suspension. There are three main bearings in the engine, and the piston is 6¼ in. long and equipped with three rings. Lubrication is forced feed through a hollow crankshaft with a spur gear pump. The clutch is 12 in. diameter, dry plate, and equipped with a brake. The transmission is a Brown-Lipe selective type, four speeds forward and one reverse. It has Timken bearings and three-point suspension.

The auxiliary transmission is connected to the rear end of the gear box by means of a simple coupling, Dexter make. The rear axle is internal gear type, with an M. & S. self-locking differential. The brakes are 29½ x 2¼ in., and there are two sets, both internal expanding. The front axle is of similar construction to the other models, except, of course, it is much heavier and stronger to carry the increased load. The rear axle reduction is 12.5 to 1, and the front axle reduction 11.2 to 1, the auxiliary transmission being equipped with an M. & S. self-locking differential. The frame is of 9 in. material. The springs are semi-elliptic all around, 46 x 3 in. in front, and 56 x 4 in. on the rear. The wheels are cast type. Gasoline feed to the Master carburetor is cared for by the Stewart vacuum system. The gasoline tank is cylindrical and is located under the driver's seat, 25-gal. capacity, with 5 gal. in reserve. The radiator is copper tube type with cast shell, springs suspended.

This model has a Ross BM worm and nut non-adjustable steering gear, with a 22-in. wheel located at the right of the chassis. The tread is 70 in. on the front and 63 in. on the rear. The road clearance at the front axle is 11½ in., and at the rear 14½ in., at the center of the chassis 20 in. The actual hp. developed by this engine is 75.



Rear End of a Winther Four-Wheel Drive Truck With Wheels Removed, Showing the Bearings and Internal View of Mechanism



Close-up of the Internal-Gear Drive and Mechanism of the Front, Showing the Universal Joint on the Drive Shaft.

The Truxtun Unit, Model E

The Commercial Car Unit Co., of 16th and Glenwood Ave., Philadelphia, Pa., manufacturers of the Truxtun Unit (Hudford type), has added still another model to its list of truck units for converting passenger car chassis into truck chassis. The latest addition is a 3-ton model suited to passenger car chassis other than the Ford and Dodge cars and to a number of truck chassis of medium capacity. The new Dodge models of 1½ and 2½-ton capacity were described in the November issue of the COMMERCIAL CAR JOURNAL on page 60.

The model "E" 3-ton job is naturally supplied in a variety of wheelbases, but the specified frame length provided is 180 in., which can be shortened to suit the chassis to which it is adapted. This model is for a heavier and more powerful passenger car chassis and is built accordingly. The frame, for instance, is of 6-in. channel steel throughout its length. The unit is also furnished with double brake brackets and counter shafting and with Russell heavy duty axle. The springs are 52 in. long by 3 in. wide, with 14 heavy leaves. The tire equipment is 35 x 5 solid, and the shipping weight is 1900 lb. Pneumatic tires are furnished at slight extra cost.

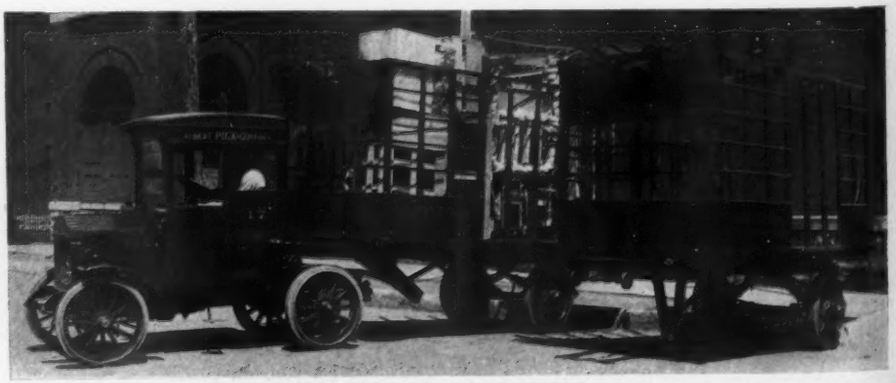
The Lapeer Tractor-Truck Now Made in Two Sizes

The Lapeer Tractor-Truck Co., of Lapeer, Mich., has recently added a 3-ton model to its line of tractor trucks, and is offering four sizes of semi-tractors, namely: 2, 3, 5 and 7½ tons capacity. Details of the 5-ton Lapeer tractor were described in August, 1917 issue, page 52.

Both tractors employ a Waukesha engine, the bore and stroke of the 5-ton model being 4 x 5¾ and of the 3-ton model, 3½ x 5¼. Complete specifications of these models are given in this issue in the specification section under the title "Gasoline Truck Tractors."

The accompanying illustration distinctly shows the advantages of the Lapeer tractor and trailer outfits. One trailer is ready to be hauled away while in the meantime the other is being loaded.

Albert Pick & Co., of Chicago, owns six Lapeer tractors and eleven Lapeer trailers. This company, one of the largest hotel supply houses in the country, finds this method of delivering its goods very economical and a time saver.



Lapeer Tractor-Truck and Trailers Operated by Albert Pick & Company, of Chicago

An installation of six of these tractors and eleven trailers help this company conserve time and labor in delivering hotel supplies. While some of the trailers are being loaded, the other tractors and trailers are on the job making deliveries.

The Evils of Price Cutting

The day of haggling over prices is passing, and the most successful firms of the country in every line are adherents of the one price system. The best rule is: Set one price, make it a fair one—neither too high nor too low. Make it one on which there is a reasonable margin of profit, and then adhere to it.

The firm that has two or three prices is usually forced to give its lowest one in order to consummate a deal. When a company of this kind gets the reputation of being a price cutter, the shrewd, calculating buyer will make an extra effort to induce the salesman or the management to make price concessions in his particular case.

It takes the price cutter longer to sell his machines than the one price man, for the haggling over the monetary consideration often requires more valuable time than would be represented by the entire profit on the car. The man with one price has one important advantage over his competitor with several prices, because he can lay more stress on the quality and intrinsic value of his product. He can preach the doctrine that an excellent and desirable article does nót need a cut price to sell it.

Many dealers cut their prices and wonder why they are not making money. The fact of the matter is that they have cut into their overhead expense which usually averages 25 per cent. above their first cost. They may deceive themselves into thinking that they are making a profit for a while, but this process can not continue indefinitely.

Many dealers will say: "In this particular case, I will give this man a reduction because he pays cash." It is preferable, however, to have a fixed, published cash discount, whether it is two or five per cent., and give it to everyone who pays it. Many people who are accustomed to buying on credit will pay cash if they can get a substantial discount. That is the reason why it is better to make the cash discount a regularly established and uniform procedure, instead of an intermittent uncertain one. It is often an inducement in making the sale that is far more tempting to the prospective buyer than a cut price, because he can see that he is receiving a standard product at a little lower price because of his ability to pay cash.

Promiscuous price cutting is a harmful practice and should not be encouraged by either the dealer or the manufacturer. It should be abolished because it lowers the moral and ethical standards of the business.—Warren Eugene Crane.

Motor Truck Hauls Denver's Big Municipal Christmas Tree

There were two conditions which permitted Denver, Colorado, to have the largest municipal Christmas tree last Christmas eve which was ever enjoyed by that city or perhaps any other municipality. Those conditions were the unexcelled mountain roads leading from Denver into the big-timbered mountain fastness, and motor truck and trailer. Without either of these Denver would have had to be contented with a mediocre Christmas tree as she has had heretofore.

The completion of the Mount Evans highway as far as the big timber reserves gave to Jas. A. Burnett, manager of parks and improvements, the idea of procuring a municipal Christmas tree of record size for Denver. The task of finding the tree and bringing it to Denver fell to Fred Steinhauer, superintendent of Denver's famous mountain park system, and how well he performed the duty was proven by the size of the tree.

A heavy snow storm started just previous to chopping down the tree and continued until after it was erected upon the civic center in Denver. Motor trucks here again proved their value by hauling away in large loads the snow from around the tree after it was erected.

When aboard the truck the tree measured, from base to tip, 69½ feet, and almost five feet around its base. A strong horse was erected just fore of the center of the truck and another in the center of the trailer, and upon these the tree rested and swung freely on the two points when rounding curves and street corners. The tree was hauled the distance of over 40 miles in a little more than five hours. At best it would have taken several heavy teams of horses two days to have hauled the tree to Denver on drays and the cost would have been prohibitive.



Stopping at One of the Numerous Concrete Bridges Over Bear Creek to Measure the Tree

A Republic truck and a four-wheeled trailer were used to haul this tree, which measured 69½ feet from base to tip.

Robert C. H. Rupp, Vice President Maccar Truck Company

It was the indefatigable punch that Robt. C. H. Rupp put into his efforts and determination that in three years brought the Maccar Truck Company's fifty-thousand dollar investment up to a million dollar concern. It stands today among the largest and best equipped truck factories in this country.

The reasons for the success of some men are easy to discern and they are very evident in the case of Mr. Rupp. His never relaxing energies forced the fulfilment of his business ambitions. He is a stalwart worker and was an early pupil in the school of hard work. At eight years of age he wiped locomotives at night, after attending the day school. At the age of twelve, he went to school in the morning and served as a clerk in a grocery store in the afternoon and evening. He entered Penn State College and worked his way through by sweeping dormitories, waiting on table, cleaning arc lights on the campus and taking any odd jobs that offered, so that he could make a little change to help him through his college education. After leaving college, he entered politics, and at the age of twenty-one ran as councilman, defeating his opponent, who has since gained a national reputation in politics.

Mr. Rupp was later employed by the Bethlehem Steel Works as government reporter. After leaving the Bethlehem Steel Works he decided to enter the mercantile business in connection with his engineering, and entered the employ of S. S. Kresge & Co., here proving his ability to such an extent that they made him manager of one of their largest stores. Following a period of six years' successful managership they sent him out as a supervisor of many of their large stores throughout the country.

In 1916 Mr. Rupp came to Scranton and talked with the Board of Directors of the Maccar Truck Company. They told him to go into the factory and make a position of his own choosing; he did so within six weeks, placing himself as vice-president and general manager of the Maccar Truck Company, of Scranton, Pa.

Mr. Rupp is only 38 years old, and although in the motor truck business a comparatively short time it was because of his early managerial training and penchant for hard work that it has been possible for him to place the Maccar Truck Co., of Scranton, Pa., in its present flourishing position.

Medway Sales Corp. has been formed at Racine, Wis., to handle sales and advertising for the Wohlrab Steering Gear Co. E. M. Caskey is president of the Medway organization and P. B. Wohlrab, consulting engineer. E. H. Smieding is secretary and treasurer.

Prominent in the Commercial Car Industry



Robert C. H. Rupp
Vice President of the Maccar Truck Company,
Scranton, Pa.

"Hardly a day goes by that we do not receive one or more letters asking for a Maccar catalog and mentioning they have seen our ad in The COMMERCIAL CAR JOURNAL. This proves that your magazine is invaluable to the truck manufacturer, and outside of an advertising medium, it keeps me posted on the general trade conditions."

Robert C. H. Rupp.

EFFICIENT REPAIR METHODS

Editor's Note: This department is conducted primarily for the new repairman and dealer; also the repairman in the smaller towns who is anxious to place his shop on a better paying basis and do his work in a more systematic manner. We shall appreciate any suggestions or criticism that will help us make this department satisfy your needs.

Overhauling the Continental Engine

By C. P. SHATTUCK

PART II

CONTINUING the overhaul of Continental engine used in Federal trucks model O and G, H, M and P, the method of procedure will depend upon whether the crankshaft is to be sent outside to have it ground true or the work performed in the shop. The former method is recommended when possible, but if facilities are lacking, the work can be done by either of two methods: displacing the ridges by filing or using fine emery tape or cloth with oil. The untrue part is made as nearly circular as possible with a smooth file, testing it frequently with the calipers, then lapped. A lapping device can be constructed by bolting or clamping two halves of a bearing of similar size, as shown in an accompanying illustration, and dressing the lap, with a fine abrasive and oil. The lapping device is shimmed to permit of decreasing the diameter of the lap as the work progresses. Another method is to mount the crankshaft in a lathe. Any of these methods will require experience as the novice can easily spoil the work by taking too big a cut. The better method is to send the crankshaft to a specialist to be ground.

Cylinder Inspection

The inspection of the cylinders should be thorough and very carefully performed to determine whether it will be necessary to regrind them, which will require the fitting of oversize pistons and rings. Some thoroughly experienced mechanics claim to be able to determine the condition of a cylinder by inserting the piston, minus the rings, and noting the play. The best and most satisfactory method is to measure the cylinder to ascertain whether it has either gone out of round or taper by means of an inside micrometer. The maximum to be allowed should be from .0015 to .002 in.; that is, if the cylinder is out more than .002 in., taper or out of round, it should be reground if a good job is desired.

If the cylinder walls are true but scratched or slightly scored, they can be lapped with some form of expanding lapper such as an old piston, but extreme care should be used in the selection of the abrasive or lapping compound. The Continental Motors Corp., maker of the engine, recommends the use of ground glass for a lapping abrasive. The cylinder should be thoroughly cleaned so that none of the compound will remain.

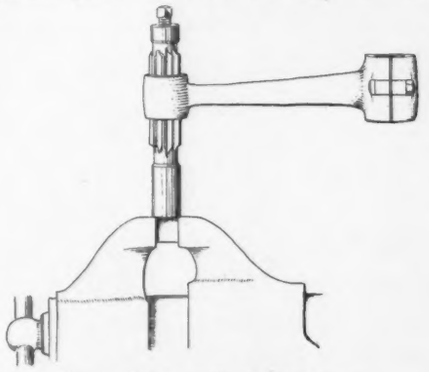
Tag Parts With Job Number

The cylinder block is sent to the grinder tagged with job number and order as explained in previous installment. Before the crankshaft is sent the small gear, retained by key and taper pin, must be replaced and this is best done in the arbor press. Tag shaft with job number. While shaft and cylinders are being reground the other work is completed as follows:

Three camshaft bushings, front, middle and rear (plain bushings), are fitted to the camshaft by placing the bushing in the lathe and taking a rough cut with a boring bar and finishing with a bearing scraper. A clearance of .002 in. is allowed, and in fitting bushings to case they are driven in with a wood block and should not be a tight fit, as they may bulge and cause shaft to bind and make reaming necessary. **Oil holes should be clear and register with supply openings.** Bearings should be liberally oiled before assembling. **Replace camshaft plug,** flywheel end.

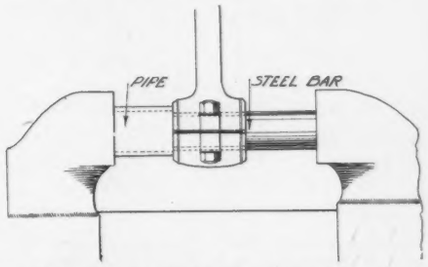
Piston Pin Bushings

Worn piston pin bushings (the wrist or piston pin is stationary), **require new piston pins.** The old bushings can be



New bushings are fitted by using an expanding reamer

driven out with a plug or by the method shown in an accompanying sketch, one which also can be utilized when fitting the new bushings. In fitting a bushing in a rod be sure that the oil holes register. Clamp expanding type of reamer in vertical position in vise as shown in an accompanying sketch and take a light cut. Try piston fit but do not force pin



Old piston pin bushings can be easily removed by using bar slightly smaller in diameter than that of bushing and pipe, and forcing bushing out in jaws of vise.

in bushing. Several light cuts will be necessary. **Pin should be a drive fit** and if rod be tapped lightly with hammer it will "set" the high spots in the bearings. To test fit, clamp piston pin in vise with rod at right angles. Rod should drop of its own weight when given a slight push. Leave each piston pin in its rod.

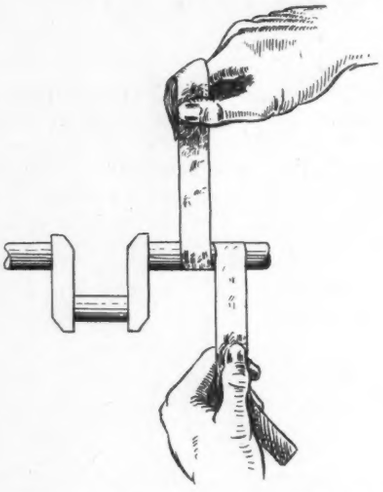
Connecting Rod Bearings

Replace gear on crankshaft and secure latter to bench by bolting flywheel flange to angle plate, support gear end as described in previous installment and **fit connecting rod bearings.** There are two halves or caps to each rod with bronze backs and white metal linings. Replace old members with new, and start with the connecting rod of the No. 1 cylinder, that nearest the gear end of crankshaft. **Smear crankpin with Prussian blue** or a paste of powdered lampblack and oil, the latter preferred, place an equal number of shims of equal thickness between the halves and tighten. **Rotate rod** several times and remove rod. The high points of bearings will show blue. **Remove all the high spots** with bearing scraper from both halves. Smear again with blue or black, etc., and repeat until "spotted in;" that is, until all color rubs off evenly when rod is ro-

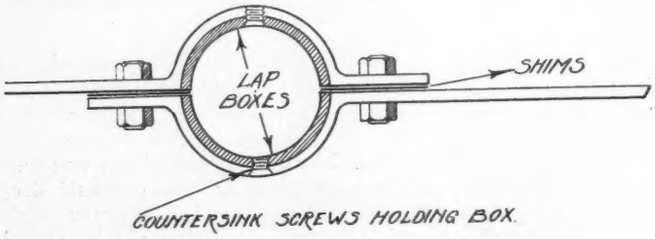
tated with bearings set up. In some shops the bearings are "set" by tapping with a hammer. Fit with bolts and nuts set up tight so that rod can be turned fairly easy by hand. **Remove rod** and replace lower cap and catch nuts on bolts with shims in place. Fit remaining rods in order, etc.

Fitting Main Bearings

Remove old main bearings if thin or worn nearly flush with retaining screws (the halves are screwed in and screws countersunk), and **fit new bearings,** setting up screws tight. With crankcase in reverse position in engine stand **place**



Ridges on main and rod bearings of crankshaft can be reduced by using fine emery cloth and imparting a long, steady movement to the abrasive.



A lap for rod and crankshaft bearings constructed of two boxes secured by countersunk screws.

crankshaft on crankcase with crankshaft gear end as timing gear case end, and proceed as when fitting connecting rod bearings, and **fit each bearing separately.** In scraping old bearings it is important that oil channels be of sufficient depth and communicating holes clear. Smear bearings liberally with oil, replace caps, tighten and cotter pin the nuts. **Test each bearing** as set up, using crankshaft rotating tool described in previous installment. A shaft should not be adjusted so tight that it cannot be turned by hand after the bearings are "set."

Replacing Timing Gears

Replace camshaft gear in reverse order it was removed, tighten cap screws and wire them. **Replace pump gear** with its oil retainer and thrust washer, tighten castellated nut and cotter pin. Before **replacing idler gear** turn crankshaft, camshaft and pump gears so that the timing marks of the crankshaft gear will mesh with those of the idler gear, and the marks of the last named with those of camshaft and pump gear. Lock idler gear nut, cotter pin, and make sure thrust washer is on stud of idler gear.

Assembling Pistons, Etc.

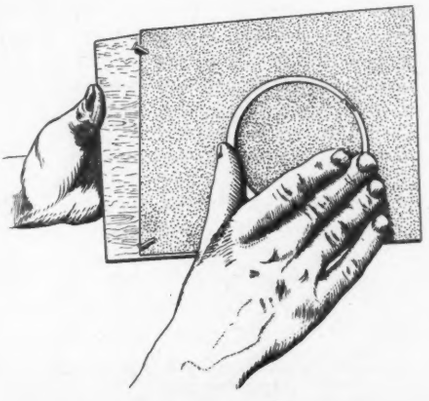
With the return of the cylinder block with new pistons, etc., after grinding, it is advisable to check the work. Pistons



New rings should be so fitted as to allow for expansion when hot

should be fitted with a clearance of .004 in., and those supplied by the maker of the engine are ground straight except the two top lands which relieve the necessary extra clearance allowed when grinding the piston. In fitting a piston it is only necessary to use a ribbon or feeler gauge .004 in. thick and fit the pistons accordingly.

To properly **fit piston rings** requires care. If new rings are fitted to an old piston first **remove the carbon** from grooves and head. A section of an old ring will make an excellent groove tool. Test the fit in the grooves which should be slightly larger to allow for the expansion of the rings. If rings are too

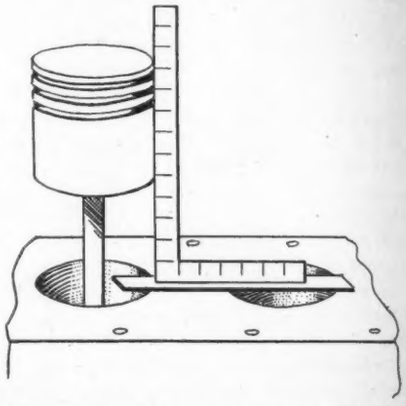


Thickness of rings can be reduced when necessary by rubbing on an abrasive on a flat surface

thick a light cut can be taken of the ring groove in the lathe or the ring lapped or dressed by running it backward and forward on a sheet of fine emery or crocus cloth fastened to a flat surface. **Proper ring end clearance** is .008 in. for the top ring and .004 in. for lower. Narrow, thin strips of metal (3), placed equidistant between piston and rings will make easy removing and replacing rings. Rings should be replaced in order fitted and with grooves should be well oiled. Slots should be equidistant or one-third apart.

Testing Piston and Rod Alignment

Assemble connecting rods in pistons, locking and cotter pinning set screw retaining piston pin in piston bosses. (The pin is so spread as to prevent screw working loose.) Oil piston pin and its bushing before assembling. (The piston pin is started through boss and rod inserted, bushing lined up with pin, and pin driven, or forced home.) Oil liberally crankpins and connecting rod bearings



Alignment of piston, connecting rod and bearings can be tested by a straight edge and square

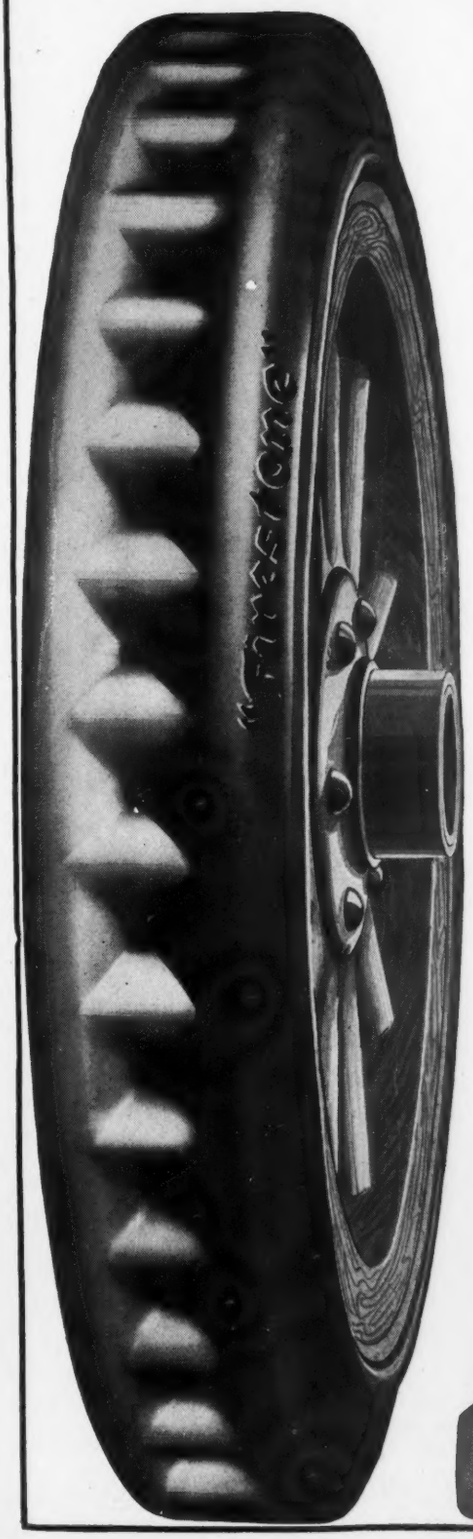
and **replace connecting rods** with pistons, tighten nuts and cotter pin. Test fit of bearings. (Piston should fall from nearly vertical to horizontal of its own weight when given a start by hand).

To align pistons; that is, to test the alignment of each piston with its rod and bearing, place a straight edge on crankcase as shown in the accompanying sketch, and with the rod and piston vertical place a metal square as illustrated. The piston should line up with the square.

Renewing Valve Guides

Renew valve guide bushings whenever so badly worn as to admit air or when new valves are used. (It is not practical to use new valves with old and badly worn guides.) To **displace valve guides** use a puller, as it requires care and experience to drive them out. The puller can be used to install the new guides or they can be driven in by using a block of hard wood or lead. To **true up valve seat** use a reseating cutter and it should be or adjusted to the same angle of the valve and not less than 45 degrees. Bad-

Firestone



Solid Tire Endurance
Pneumatic Resilience

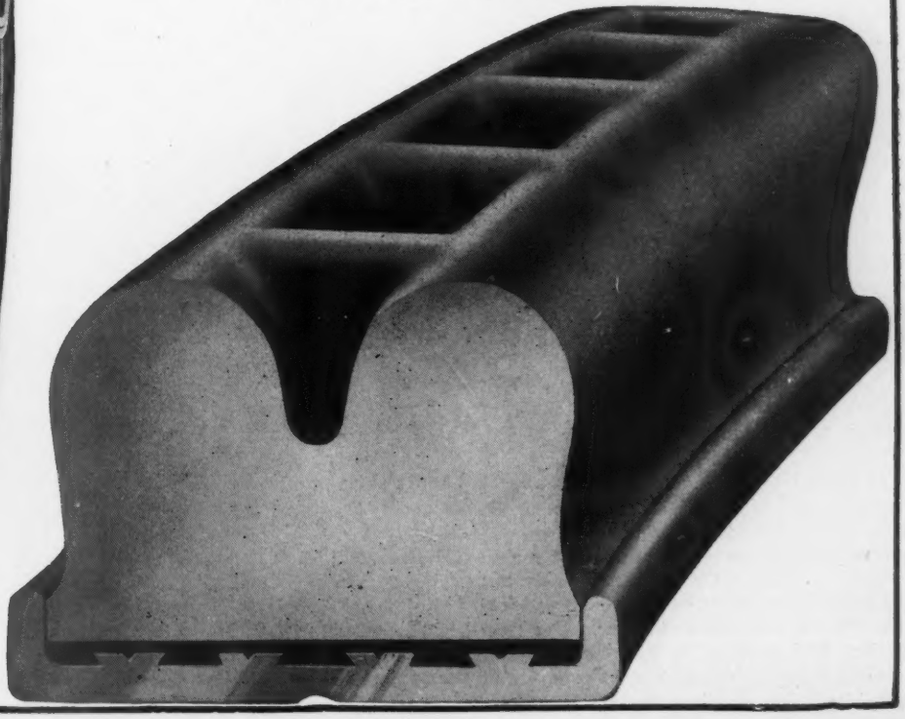
FOR every truck up to two and two and one-half tons capacity, the Firestone Cushion Tire provides practically pneumatic resilience with solid tire endurance.

The cross-section below tells the story. The two treads of extremely resilient rubber compress and spread apart slightly under the impact of road blows.

The powerful cross-bars immediately draw them back into position. The combination of ribs and cross-bars also resist skidding to a much greater extent than does the regular type of solid tire.

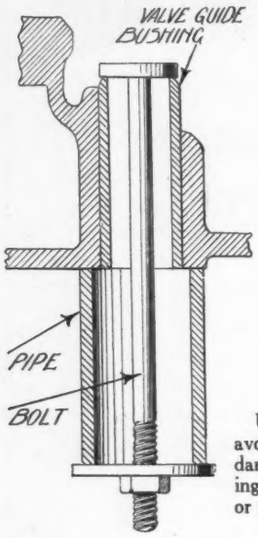
For truck protection, economy and extra speed combined with safety, equip with the Firestone Cushion Tire. It will prove an extraordinarily good tire investment.

FIRESTONE TIRE AND RUBBER COMPANY
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BRANCHES AND DEALERS EVERYWHERE



ly pitted valves and seats should be refaced and reseated. Test work by using Prussian blue or the lampblack mixture after refacing and reseating.

To **grind in the valves** many shops make use of an electric tool that saves much time and labor. Care should be taken to thoroughly remove all abrasive and to wash the valves, seats, etc. To **replace pushrod guides** with new ones,



Using a puller will avoid possibility of damage when removing or replacing valve or push-rod guides.

use a puller similar to that employed when removing valve guides, and if the latter be badly worn new ones will be necessary.

Assembling Valve Mechanism

Assemble valve mechanism before replacing the cylinder block. Cover pushrod guides and valve stems with oil before replacing and in the assembly of valve mechanism observe the same steps as in the disassembly, only reverse the order. **Fit new cylinder block gasket.** The cylinder block is now ready for the crankcase. Turn crankshaft until pistons 2 and 3 or 1 and 4 are at extreme top position. Compress rings and lower cylinder block carefully and in line with pistons. (Top ring or rings can be compressed by string or special compressor.) **Lower cylinder block** without forcing over piston and rings. Compress ring or rings of remaining two pistons and lower block. Cylinder walls should be well smeared with oil before this work. **Bolt cylinder block to crankcase. Adjust valve tappets** with a clearance of .004 in. cold. Accurate adjustment can be made in testing out and when engine it hot.

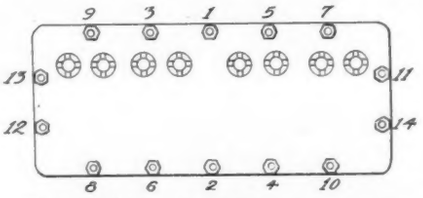
Overhauling Pump

To **overhaul the pump,** the shaft of which may have play, remove 7 cap screws and take off gland nut and washer. The plate or housing is made water tight by use of a shellacked gasket. **To renew the two thrust washers, remove pump cover,** clamp shaft in vise, file pein over taper pin of coupling and drive out pin. Displace couple and shaft and replace worn washers with new. **Use new gasket and shellac it.** Repack stuffing boxes with wicking soaked in grease and graphite. Reassemble, **replace pump** on crankcase (engine now reversed in stand) and couple to pump gear shaft.

Replace timing pointer on crankcase and **bolt flywheel** to crankshaft flange. Rotate crankshaft until piston No. 1 cylinder is top dead center (compression stroke, noting flywheel marks), then turn flywheel back 1½ in. (measured on periphery of flywheel, and **place magneto in bracket.)** Turn armature shaft of magneto in direction of rotation until distributor brush is on the No. 1 segment, and with breaker or contact points fully separated **connect armature shaft to pump shaft** with coupling. The magneto is of the set spark type. Secure magneto with strap and tighten.

Replace oil indicator gauge, using new gasket, and inlet water pipe (pump to cylinder block) and renew the gaskets. **Replace governor** housing, meshing its gear with that on pump shaft. Put back water cover plate, using new gasket and tighten the 14 cap screws. **Replace valve port plugs,** using new copper asbestos gaskets (8) and new gaskets (4) when screwing in spark plugs. White lead threads of priming cocks before replacing and screw in support for cables or high-tension wires. Make new gasket for outlet water pipe of cover plate, using pipe flange for pattern.

Replace intake manifold with new gasket between it and cylinder block and at-



Illustrating order of tightening nuts of water header so as to avoid straining plate

tach governor throttle housing and use two new gaskets if old are damaged. Replace carburetor with new gasket between flange and governor throttle housing. **Bolt exhaust manifold** to cylinder block, renewing the four gaskets (use heat proof gaskets.) Install hot air horn.

Assembling Cases

Use a new gasket between timing gear case and crankcase. **Replace fan pulley and fan** and adjust tension of belt. Screw breather in upper crankcase and replace valve cover plates and lock with wing nuts. Revolve engine in stand, use new crankcase gasket and **bolt lower crankcase to upper. Replace oil indicating assembly** (float and wire) and replace plug with a new gasket. Replace oil pipe connecting upper and lower crankcase. **Fill oil reservoir** to high mark (requires about 6 quarts). Failure of indicator to register is generally due to binding of the float caused by wire or rod being bent.

Replace clutch cone, clutch spring and slip thrust bearing complete on clutch shaft and lubricate before assembling. Compress clutch spring with special tool, catch adjusting nut and lock nut. **Note** —It is suggested that the novice make adjustment of spring under supervision of experienced man or note distance adjusting nut is run up on threaded section of clutch shaft when disassembling.

Replacing Drive Shaft

Revolve engine in stand and **replace cables** or high tension wires. If wires have been left attached to terminals of distributor it will be a simple matter to connect them in proper order, the firing order of engine. **Clean and refill grease cups** (pump, fan pulley, front beam support). Engine is now ready for crane or other hoist. In suspending engine in crane attach chains so that flywheel end will be lower than front end, a slight angle greatly facilitating slipping the clutch cone sleeve and yoke over clutch hub studs. Suspend drive shaft at rear end by rope or wire secured to gearshift rods and similarly suspend the front end of shaft. Lower engine and slip clutch cone sleeve and yoke over clutch hub studs. It may be necessary to have someone depress or operate clutch pedal and loosen its adjustment when connecting shaft and clutch so that clutch hub will slip into throw-out yokes. Replace washers and nuts on clutch hub studs. Lower engine, line up holes in front and rear supports, bolt and lock washer. **Connect rear universal joint** casing with transmission drive gear flange, aligning flats of flanges, replace lock washers and nuts. Depress clutch pedal to permit turning shaft when aligning and connect two lower nuts. Again depress pedal and turn shaft through 90 degrees and replace two nuts and so on.

Connecting Exhaust Line

Bolt hot air stove to exhaust manifold, using copper asbestos gasket between parts. Slip front end of exhaust pipe connecting with muffler in stove, line up screw hole in pipe with that in stove, and replace screw. It may be necessary to loosen muffler support to slip in exhaust pipe. **Slip hot air pipe in stove** and cotter pin. Connect at carburetor if it was removed in pulling down of engine. **Connect fuel line** with carburetor, turn on gas and inspect for leaks. **Replace dash and floorboards,** holding accelerator pedal up. Replace accelerator rod. If pedal be worn badly it will not fully open carburetor throttle. To replace pedal with new, drive out pin retaining bolt, slip pedal in bracket, replace bolt and pin. Examine accelerator spring (on engine) and replace if it does not close throttle when pedal is released.

Suspending Radiator

Cut out two rubber pads ¼-in. stock and holes to take the ⅝-in. radiator bolts. **Replace radiator,** aligning holes, insert bolts, lock washer and tighten nuts. **Attach inlet and outlet water hose** and clamp. Replace starting crank assembly. **Replace radiator petcock** and close it. **Connect ground wire of magneto** with dash switch terminal. Replace side and rear engine pans and bolt. Fill radiator with water and watch for possible leaks. Start engine, run slow for brief periods and note its operation.

The Hands and the Arms of the Driver

ROSS GEARS

The Steering Gears that Predominate on Motor Trucks

SINCE the steering gear is the only part of a motor truck in which *human strength* is concerned, which is constantly in use while the truck is in operation, it must follow that the *efficiency* of the truck depends very largely upon the *hands* and the *arms* of the driver.

However perfect the truck may be mechanically in other respects, if the steering gear is so hard to operate as to cause an excessive strain on the hands and arms that turn the steering wheel, it is impossible to secure real efficiency from either the man or the truck that he drives.

On the other hand, if the steering gear is *easy to operate* it *conserves the strength* of the driver and *increases his efficiency*. Easy steering means a bigger day's work more easily done, and driver and employer are both better satisfied.

The *bearing surfaces* in the screw and nut mechanism of Ross Steering Gears are *so enormous* that it is *easy to steer* the truck under all conditions. These bearing surfaces, together with the general design of the gear and Ross *quality in materials* and *workmanship*, guarantee also an unusual degree of *safety* and *reliability*.

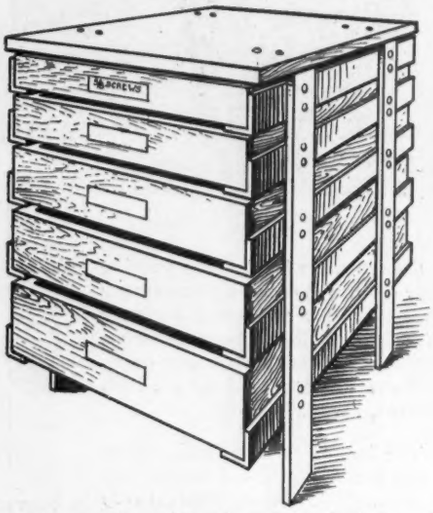
Over 115 manufacturers, representing considerably more than half the entire motor truck industry, have recognized the superiority of Ross Gears by using them as standard equipment on their trucks. Their choice of Ross Gears is to a certain degree a guarantee of their complete product, as it is reasonable to suppose that each one has given the same careful attention to every detail in the construction of his truck.

Write for catalog and any special information desired.

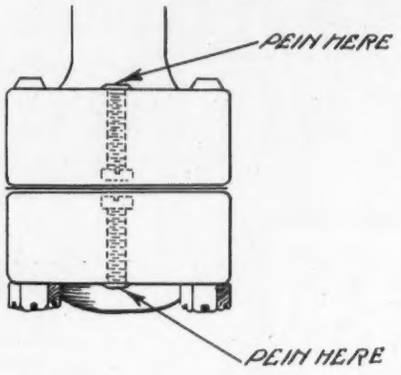


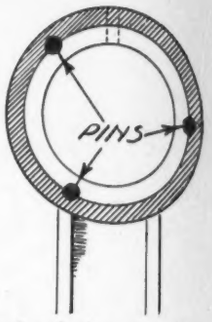
ROSS GEAR & TOOL COMPANY, 760 Heath St., Lafayette, Ind.

Helpful Suggestions for the Repairman

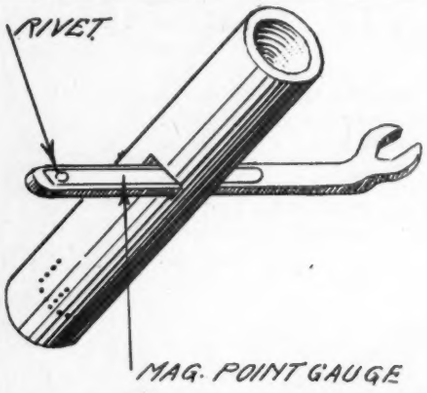


A convenient cabinet for storing small parts, such as cap and machine screws, taper pins, lock washers, rivets, etc. Framework may be of wood or iron, with metal trays. White cards indicating contents and dimensions, and coated with white shellac, are attached to each tray. Stand can be made so that contents can be taken out of trays from either side.—A. W. Blanchard, Port Washington, L. I., N. Y.

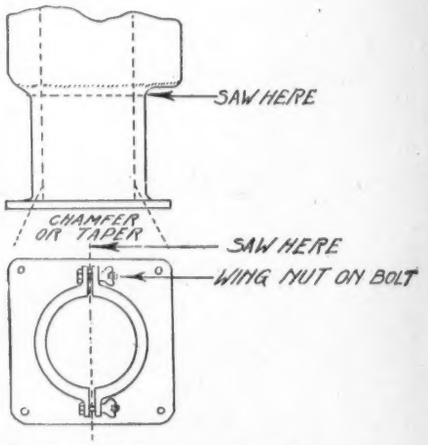




In fitting new wrist-pin bushings, etc., occasionally one will be found that does not fit as snug as it should. Take three steel pins, slightly larger and longer than the holes which are drilled in the bushing and rod shell. Drive in pins and pein over the ends. This will slightly expand pins and hold bushing snug. In some types of engines the connecting rod (crankpin end) bearing caps are retained by filister-headed cap screws. Generally these extend but a short way in cap and rod and often work loose. By using a longer screw and peining over the end, the caps will never work loose, as the screws cannot turn. It will not prevent taking out the screws as the pein can be chipped off easily.—Howard Wright, New York City.



Left: The special wrenches used to adjust the contact points of magnetos are small and are easily lost. To prevent loss take a piece of one-half inch steel tubing about two inches long and cut a slot slightly larger than the size of the shank of the wrench. Remove blade or gauge, slip through opening and rivet blade with larger round head rivet, thus securing wrench. Mark with a prick punch the initial of the magneto. For example: That illustrated is for Eisemann. It will be found that the tubing affords a good grip when loosening and locking the contact point nuts.—C. S. Perry, New York City.



Right: Piston Ring Compressor, constructed by sawing off lower part of single cylinder of L-head type and chamfering so that rings will be compressed when device is slid over piston. This section is split longitudinally and ears are welded to each half and bored to take bolt with wing nut. Can be used two ways, one as assembled and slipped over piston, or halves clamped on and tightened. Two cylinders will be needed for four-cylinder work and three for six-cylinder. The cylinder or compressor is split so it can be removed after cylinder block is put on. The bore should be the same as the engine being worked on.—C. S. Perry, New York City.

Highways Transport Committee Trying to Establish Federal Traffic Rules

With the very able assistance of Mr. Eno, the acknowledged expert on traffic rules, the Highways Transport Committee of the Council of National Defense, is making an endeavor to establish federal, or uniform, highway traffic rules throughout the United States.

Mr. Eno says: "If the United States Government would pass a Federal Traffic Act, results could be obtained much more expeditiously. The Act should apply to the District of Columbia, to the territories, and to all post roads. It would then, without interfering with States' rights, become national, since no vehicle could travel on a post road which did not comply with the Federal Act."

In the meantime until such a Federal Traffic Act is realized, we suggest that various cities, towns and communities revoke existing ordinances on traffic and substitute the very simple General Highway Traffic Regulations, copies of which can be had by applying to Mr. Eno, of the Bureau of Highways Transport Committee, Council of National Defense, Muncie Bldg., Washington, D. C.

Pennsylvania License Revenue Breaks All Records

An unusually large number of automobiles have been registered by the state highway department during the month of January. It is thought that the mild weather this winter and the work being done on the roads, which could not be handled in rigorous winters are the reasons for the large registration.

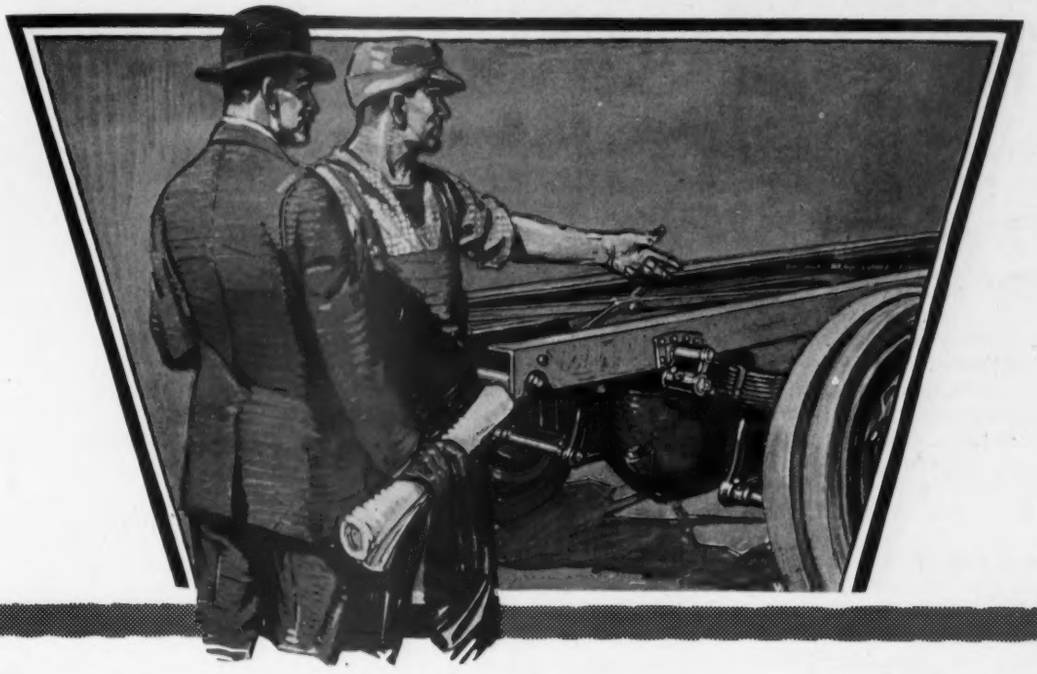
The registration for the first month of the year is usually small, but this year it is way ahead of the registration of the past three Januaries.

Roller-Smith Opens Detroit Office

The Roller-Smith Co., 233 Broadway, New York City, announces the opening of a Detroit office in the New Telegraph Building. This office is in charge of C. H. Nicholson, who was formerly connected with the Chicago office of the Roller-Smith Co. and left to enter the Signal Corps.

The activities of the Roller-Smith Co.'s Detroit office cover the entire state of Michigan, and Mr. Nicholson will give special attention to the automobile instrument business in that territory.

James E. Wood has been appointed manager of the Cleveland office, which is located at 711 Williamson Bldg. Mr. Wood assumes the post formerly held by C. S. Ripley. He was formerly connected with the Screw Machine Products Corp., and later with the Western Electric Co. He will have supervision of the Cleveland office, which covers the state of Ohio and part of Kentucky.



Why a certain Atterbury dealer owns that big house on the hill



"See that house? Pretty fine, eh? Best view in the city, too.

"Well, it's mine, and it's paid for, and it ought to stand there a long, long time.

"—because it's built with my profits on Atterbury Motor Trucks, and that's a solid enough foundation for any man to build on."

The above is a real conversation, with a real Atterbury dealer (name on request).

He has had the Atterbury Dealership only two years, and what he has made is not a circumstance to what he is going to make.

He says that the best thing about the Atterbury Dealership is the fact that he doesn't have to spend his profits to keep an Atterbury running after he has sold it.

If you would like this valuable franchise for your city, write or wire today. There is still a little territory open

ATTERBURY MOTOR CAR CO.
BUFFALO, N. Y.

ATTERBURY

MOTOR TRUCKS OF MAXIMUM SERVICE

Helping the Truck Buy Itself

Widespread Increase in Adoption of Time Payment Plan Broadens Potential Market. $246,000,000 New Trucks Alone Sold on Time Basis in 1918

By DONALD MacLEOD LAY

ALTHOUGH the fundamental soundness of the payment plan for the sale of motor trucks has been almost universally recognized for more than a decade, its adoption has become general only during the past three years. This was partly due to hesitation on the part of the dealer, and sometimes of the buyer, but more because of the lack of facilities for financing time payment sales.

At the present time the latter factor in the situation no longer exists, as there are commercial banking firms in all parts of the United States which make a specialty of financing motor truck distributors and dealers in securing vehicles from the manufacturer and also time payment sales from dealer to customer.

How important an element in motor truck merchandising this time payment business has become may be appreciated from the estimate of its volume made by men who are in a position to gauge it very accurately. In 1918, they state, more than $246,000,000 worth of new trucks alone were sold on some form of deferred payment plan. In the used truck field, they put the 1918 time payment business at $125,000,000. Both these figures they consider conservative.

Moreover, they venture to predict that the volume of truck sales to be made in deferred payments in the next year or two will make the 1918 total of $371,000,000 seem small by comparison.

When it is considered that, of the 250,000 commercial cars composing the total output of American factories in 1918, more than 100,000, or about 40 per cent., were bought by the Government, it is evident to a well informed dealer that conditions are unusually propitious for an unprecedented increase in the sales of motor trucks in 1919. The manufacturers are planning to take care of such an increase and the estimated production for 1919 is in the neighborhood of 300,000 vehicles.

Figuring that even 50 per cent. of these trucks are sold on time—and the average will probably be nearer 70 per cent.—and keeping in mind the tremendous volume of second-hand truck sales to be made during the next twelve months, the value of the service rendered by the commercial banker to both dealer and purchaser is very apparent.

The increase in the use of trucks will be greatly accelerated in the near future by improvements in road construction and maintenance all over the country, and still further, by the rapid spread of the return loads bureau movement.

In every section of the United States there are scores of small financing concerns, most of which are doing a good business in their respective localities, but whose sphere is limited to those localities. Naturally, these companies confine their operation largely to the retail side of the business, that is, financing time payment sales of trucks and passenger cars from dealer to consumer. The restrictive factors in these cases are usually small working capital, and the necessity for quick and easy credit investigation.

A number of companies, however, have expanded their business until their operation is practically nation-wide. These companies have their main offices in one of the large cities and maintain branch offices in the principal centers of population, operating through thousands of dealers all over the country. They require ample capital and a large and efficient organization. A few of the more widely known of these commercial banking firms are:

Commonwealth Finance Corp., New York; Bankers Commercial Security Co., Inc., New York; Olin Finney & Co., Inc., Philadelphia; Commercial Motors Mortgage Co., Buffalo; Continental Guaranty Corp., New York; Republic Mortgage Co., Pittsburgh; Commercial Acceptance Trust, Chicago; and Commercial Credit Co., Baltimore. One company, the Auto Brokerage Company, of New York, although at present operating only within a 200-mile radius of New York City, is planning in a definite way toward future expansion, keeping in mind its policy of overnight service.

The Advantages of the Time Payment Plan

There are a number of large financing concerns which handle motor truck paper exclusively, although others finance sales of new and used trucks from dealer to user. Most commercial bankers also do a wholesale business, that is, financing distributors and dealers in securing trucks from the manufacturer, and the dealer and sub-dealer in acquiring vehicles for stock from the distributor. Usually this business is not productive of much, if any, direct profit to the financing company, but the retail business which generally follows makes it worthwhile. Other concers operate only on a retail plan.

Among the advantages which time payment facilities mean to the responsible dealer, the most important are:

A liberal line of credit based on the net worth of his business.

Increased sales volume, created by the greater market for trucks sold on time and the accompanying decrease in sales resistance.

Ability to stock trucks without cramping regular working capital or impairing credit at the bank.

Advantages to the buyer are obvious. He can buy a truck, or a fleet of them, without taking too much money out of his business at one time or weakening his bank account; he is given ample time to pay up his notes, terms sometimes running as high as eighteen months; the cost of the time arrangement is comparatively small; and, most important of all, the buyer secures immediate possession of the truck and can put it to work at once to earn or save the money he needs to pay off the notes.

There is a wide variation in the details of the plans used by the different commercial banking firms in handling the financing of wholesale and retail business. The general procedure, however, is more or less similar in most cases.

What is Required of the Dealer

The first and most important requirement of all the reputable commercial banking firms is that the dealer must be responsible. He must have good credit and sufficient liquid assets, as compared with his liabilities, to insure the financing company of adequate security in handling his business.

To establish relations with a commercial banking firm the dealer or distributor is required to fill out a statement of his business, showing capital invested, stock on hand, property owned, banking connections, etc. On some plans he is also obliged to fill out an application for a surety bond, to be secured and paid for by the financing company. When investigation establishes the dealer's financial and moral rating as satisfactory the financing company generally extends to him a fixed line of credit, informing him that they are now ready to buy his time payment paper, as well as to aid him in stocking vehicles, if their plan comprises this feature.

Some of the plans for aiding the dealer in stocking trucks are called the warehouse plan, the salesroom plan, display floor plan, etc. Some of them are especially intended for helping the dealer to stock trucks in winter. The terms in all cases, however, are generally very similar, the distributor or dealer making a cash down payment of 10 to 20 per



"The Birth of a Wheel"

is the title of an interesting and absorbing booklet which you will enjoy reading.

It carries you through the manufacturing processes of the modern motor truck wheel—from fiery electric furnaces to humming finishing machines.

Write on your letterhead for your copy of "The Birth of a Wheel."

CLARK EQUIPMENT COMPANY

Buchanan **Michigan**

CLARK
Rear Axles · Steel Wheels · Locking Differentials
For Motor Trucks
EQUIPMENT

Every Cast Disc Steel Wheel on a Motor Truck is a Clark

cent. of the wholesale price of the trucks and the banking concern advancing the rest on the distributor's or dealer's note for the amount, plus a small percentage charge for handling the transaction.

Notes for carrying motor trucks in this way are usually for a shorter term than for passenger cars, the financing companies' experience having demonstrated that the trucks could be sold more rapidly and more steadily. Thus, while the notes for passenger cars generally run for a period of six months, four months is more common for truck deals of this kind.

Most of the wholesale plans provide that if the distributor or dealer disposes of any of the trucks before the term of the note has expired and turns in the money he shall receive a rebate on the percentage charge of the financing concern, for each month of which the sale anticipates the date of maturity of the note. This provision, of course, is subject to the limitation imposed by a minimum charge.

Often the distributor or dealer finds it necessary or desirable to secure an extension on the notes. If he is in good standing, there is no difficulty about this, but he is usually obliged to pay down an additional deposit as an indication of his good intentions.

The Dealer Financing Plan

This is the way a dealer works out on one of these wholesale plans, assuming that a dealer is securing two trucks from the manufacturer, the wholesale price of each chassis being $1400, and each having a box body costing the dealer $250, as well as $50 worth of extra equipment apiece:

Wholesale price of chassis	$2800
Wholesale price of bodies	500
Extra equipment	100
Freight	100
War tax	102
Cost to dealer	$3602
Five per cent. charge to dealer, including fire and theft insurance	$170

This charge of 5 per cent. is only approximate, of course, as some of the financing companies have lower rates than this, while in other cases the charge is higher, due to some special advantages to the dealer. Sometimes the banking firm also charges interest at the rate of 6 per cent. a year on the amount advanced, while crediting the dealer at the same rate on the amount of his down payment. Many of the commercial bankers limit their wholesale business to distributors and dealers of manufacturers with whom they have contracts.

How the Retail Sale is Financed

It is the retail business, however, with which both the dealer and the financing company are chiefly concerned, as it means decreased sales resistance and a greater volume of business, with a corresponding increase in profit for the dealer, and the more time payment sales he makes the better for the financing company.

Although the plans used by the different concerns in handling this retail business differ considerably as to detail, ordinarily an individual transaction works out about as follows, from the time the dealer arranges to take advantage of a time payment plan to the completion of his first sale under such a plan.

Once the financing company has extended a line of credit to the dealer, he is free to accept deposits on all time payment sales, sending the buyer's statement of assets, liabilities, business and banking connections, etc., to the financing company to establish the buyer's credit. Usually within 24 hours this is checked up and the dealer is authorized to complete the transaction, or, if the statement is not satisfactory in some minor particulars, requested to send in a new statement with the doubtful points clarified. Should the buyer's statement be rejected positively, however, the dealer must persuade the buyer to complete the purchase entirely on a cash basis, or return his deposit and sell the truck to someone else.

Some financing companies will accept a buyer's statement which has been turned down by a dealer's regular commercial banker, but it is not wise for a dealer to take advantage of this, as all the reputable financing companies adhere to the same general standard in regard to buyers' credit, even to the extent of exchanging information in regards to bad risks.

It is the exception rather than the rule, however, when a buyer's statement is positively rejected, as it is not a common occurrence for business men or companies to attempt to buy motor trucks without sufficient income in prospect to pay for them.

When the buyer's credit standing is satisfactory, the dealer is authorized to complete the sale. Usually the order of procedure is: The buyer makes a cash-down payment of 25 per cent. of the retail price of the truck, including body, extra equipment, etc. He also pays down the war tax and freight on the vehicle from the factory, as well as the charge of the financing company for its service in handling the deal. Sometimes this fee includes fire, theft and collision insurance for a year for the full value of the truck. In a number of cases only fire and theft protection is provided, and the plans require the buyer to take out the insurance necessary to protect the financing company's equity in the vehicle. The buyer signs notes for the remainder of the price, the term covered varying from six to eighteen months. Sometimes the notes bear interest at 6 per cent., though many plans include this interest in the service fee. This fee and the cost of insurance, etc., are sometimes added to the amount of the truck.

Title to the truck is retained by the financing company by the use of a chattel mortgage, lease or conditional bill of sale, depending on the laws of the state in which the sale is made. The dealer indorses this paper, as well as the notes of the buyer, under most of the plans now in use. On the completion of the deal, these papers are sent to the financing company, which mails the dealer its check for the amount of the notes, minus its service fee, the down payment, insurance, etc., which the dealer has collected in cash from the buyer. Under most plans it is customary also to withhold 10 per cent. of the amount of the notes from the sum due the dealer until the last note is paid, when it is sent to him, together with interest at 6 per cent.

Five to ten days before the date of payment on each note the financing company sends the buyer a notice, calling his attention to the date and the amount due. If he proves delinquent in payment a day or two after this date, a systematic follow-up by letters, telegrams and personal calls is begun. As the date of maturity of the note draws near the dealer is called upon to assist in collecting the money. If unsuccessful, the necessary legal steps are taken to repossess the truck. The dealer then sells it again, pays the financing company the amount of its equity and returns the remainder of the re-sale proceeds to the original buyer.

This is the way a typical time payment sale works out on a basis of 14 months, assuming the vehicle involved to be a chassis selling for $1800, a body listed at $200 and $50 worth of extra equipment:

Cash selling price of chassis	$1800.00
Body	200.00
Equipment	50.00
Freight	70.00
War Tax	61.50
Cost of purchasing notes	180.00
Cost to buyer	$2,361.50
Buyer pays down	$512.50
(25 per cent. of list price)	
Freight	70.00
War Tax	61.50
Cost of purchasing notes	180.00
(Approximately, including insurance, interest on notes, etc.)	
Buyer gives notes payable monthly for a total of	1,537.50
(On 14-month basis, such payment is $109.82)	
Total	$2,361.50
Dealer receives cash from buyer	$824.00
From financing company	1,203.75
(Assuming 10 per cent. hold-back is deducted with service fee)	
From financing company when all notes are paid	153.75
	$2,181.50
Cost to dealer	nothing
Cost to buyer	180.00
Total amount involved	$2,361.50

If the dealer receives interest at 6 per cent. on the amount of the hold-back, the financing company's payment to him when the last note is satisfied will be $164.52, including $10.77 interest.

Due to the fact that the financing companies can discount their motor truck paper on very satisfactory terms, and since the monthly payments keep coming in, they can turn their capital over very rapidly. If it were not for this



©THE FISK RUBBER CO. 1919

THE UNINTERRUPTED DISTRIBUTION of perishable goods is vitally important to all classes. The motor truck is the dependable link in the transportation chain



MOTOR TRUCKS must operate continuously in all weathers.

FISK PNEUMATIC CORD TIRES grip the road and do their share in holding the truck to its schedule in snow or rain.

THEY PERMIT speed, absorb road shocks, reduce fuel and repair bills.

THE TOUGH Fisk non-skid tread insures traction, will not skid and wears long.

BUY FISK Pneumatic Cord Truck Tires for efficiency and economy.

FISK TRUCK TIRES

they would be unable to maintain sufficient working capital or to buy the notes on so reasonable a basis.

Most of the financing companies consider themselves as silent partners of the dealers they serve. They point out, however, that the dealer does not have to divide his profits with them, as the customer pays the additional expense of the time accommodation. A dealer who has connections with a reputable firm of commercial bankers, they say, cannot help making money. They estimate that a truck dealer of even average ability can increase his sales 50 to 75 per cent. by the use of a time-payment plan of recognized merit.

General Tire Stockholders' Meet

AKRON, OHIO, Jan. 18—A meeting of the stockholders of The General Tire & Rubber Co. was held recently at the office of the company.

Action of the board of directors to increase the capital stock from $1,000,000 to $2,500,000, was approved by the stockholders.

A special stockholders' meeting was held Jan. 30, and it was voted to increase the capitalization. The additional capital will be used for new buildings and machinery to greatly increase production.

The following officers were re-elected: W. O'Neil, vice-president; M. O'Neil, president; W. E. Fouse, secretary, and Chas. Herberich, treasurer.

Autocar Holds Convention.—Two hundred sales managers, dealers and salesmen met recently for the annual convention of the Autocar Co. at Ardmore, Pa. Meetings were held, at which the salesmen listened to instructive addresses, and entertainment features included a banquet at the Hotel Adelphia and a theater party.

The company announced that production will be materially increased this year over last, and stated that it will restore to his former position not only every man who left for service in the war, but also will take on the force the man designated as his best friend by every employee returning. Four hundred employees left the Autocar Co. to enter the service.

Wellman-Seaver-Morgan Co., Akron, Ohio, announces that it has organized a rubber machinery department. This department invites inquiries on rubber calendars, mixing and grinding mills, tubing machines, vulcanizing presses, molds and cores, iron and steel castings, and jobbing work of all kinds.

Stromberg Carburetor Co., Chicago, Ill., has closed a contract with the Studebaker Corp. by which it will furnish Stromberg carburetors as standard equipment for Studebaker cars. This will call for approximately 40,000 carburetors.

Why Scranton's Produce Dealers Use the Truck

THE opinion of over half a dozen of the largest fruit and produce merchants in Scranton's lively wholesale block on Lackawanna Ave. is a good criterion upon which to base the experience of all the wholesale dealers. As a class, according to Scranton truck dealers, the wholesale fruit and produce companies are the biggest users of motor trucks in that city.

Despite the fact that not one of the merchants keeps a systematic record of the cost of operating and maintaining the trucks, all agree that the truck is essential to their business and has many advantages over the old horse and wagon method of delivery.

In this business, during the busy season, the factor of speedy delivery of the perishables and the ability to handle heavy loads are the two biggest advantages of the truck.

Although most of the merchants declare upon first being questioned that the expense is greater, they have no doubt of the ultimate advantage. A larger volume of business is being handled in much quicker time, the retailer gets much better service and the truck is always ready to work. There are no humanitarian features to be reckoned with, which is a big feature in a rush season. The custom has been to spare the horse excess labor, even to the detriment of the business. The truck obviates this.

Godfrey-Cawley Co. used five teams to haul its fruit and produce in normal times and more during the busy season. The expense of feeding the horses, repairing the wagons and keeping a man to care for the stable was enormous. So they purchased a truck. Seven years ago an Autocar was purchased at the city show. It is still in service together with a newer Autocar and a heavier Packard.

Lack of Efficient Drivers

One of the chief drawbacks to efficiency in motor truck operation the Chandler people find is driver trouble. It is claimed that the driver is absolutely indifferent in his work and whereas when the trucks were first acquired, a trip was made in quick time; as days went by the time for the same trip lengthened until it now requires almost as long as a team of horses. This condition is true only where irresponsible drivers are the only ones obtainable and the return of many experienced men from the army is expected to change the condition of affairs considerably in this locality. It is said that truck drivers' unions are furnishing very poor mechanics and chauffeurs in the Scranton district and yet demand the full union wage for inferior work. The same labor troubles exist, no doubt, in many lines and it would pay the truck dealer to familiarize himself with the problems the truck user must solve and be well enough informed to be able to suggest solutions and ways to overcome the difficulties. It would materially aid in the sale of trucks and promote satisfactory and efficient work on the part of the truck. Several of the companies found no fault with their trucks; it was only the drivers who gave them trouble and, of course, if there is no way to obtain and hold reliable truck drivers, truck sales will fall.

On the other hand, the Pierce Co., which operates four Autocars, has had little, if any, driver trouble, simply because they have been fortunate in retaining the services of the men for a number of years until now they are familiar with the working of the business and with the proper method of handling the trucks.

Some will say that waiting for loads and the loading and unloading of trucks, in this work, is very expensive considering the amount of investment standing idle. The merchants, however, say that so little time is required to do this work and the delivery is so much quicker that the balance is on their side. In hauling fruit and produce from the freight station, the merchant makes certain that the stuff is ready before sending the truck so that there will be no delay.

Better Roads Needed

One of the produce companies asserted that the truck was very satisfactory in short hauls delivering orders in the city where the streets were in good condition and the truck was near home in case of a breakdown. In long hauls, however, particularly in view of the deplorable condition of the roads on the outskirts of Scranton, they never knew when a truck left with a load if it would ever reach its destination.

In the fruit and produce business, trucks of from 1½ to 3 tons capacity seem to be in demand. One concern, operating a number of heavy units, did not show much enthusiasm when questioned concerning its trucks. The concern seemed to be uncertain of the wisdom of the investment and declared that the trucks were outrageously expensive to operate and keep in condition. Despite this, they would not feel safe in going back to teams, proving that the truck in itself was a recognized improvement but that caution must be observed in choosing the kind best suited to the work.

The consensus of opinion brought out the following facts concerning the motor truck in the fruit and produce field. It moved bigger loads in less time, giving better service to the retailer and consumer due to the fact that much perishable stuff had to be transported quickly. The trucks were ready for operation at all hours in all kinds of weather when horses could not be used except at perhaps great sacrifice.

GUARANTY PLAN BANKING

EVERY progressive truck dealer maintains two banking connections.

One of these is properly with his local bank for current deposits and expenses.

The other should be with the strongest banking institution specializing in the discount of automobile paper.

A connection with such an institution gives the dealer a certainty of being able to finance his receivables irrespective of local money-market conditions.

Continental Guaranty Corporation, known until April 15th as Guaranty Securities Corporation, has the largest resources of any banking institution in the world devoting its exclusive attention to automobile financing.

Resources of over $10,000,000.00, a strong organization, a clean-cut, four-square policy, and an abiding faith in the automobile industry have put the institution in the foremost place.

We solicit inquiries from responsible, well-rated merchants of trucks, who would like to discuss the matter of opening an account with us. Your inquiry places you under no obligation.

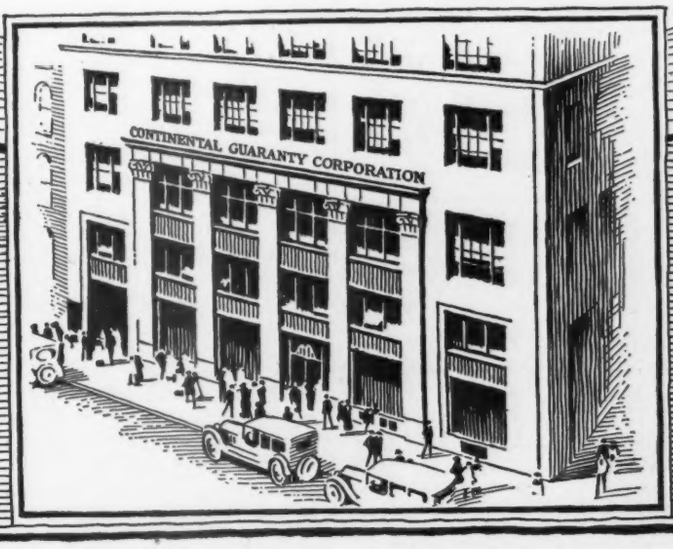
Continental Guaranty Corporation

Continental Guaranty Building New York City

San Francisco Montreal

Affiliated with Guaranty Banking Corporation
Continental and Commercial Bank Building, Chicago, Illinois

110,000 trucks and automobiles (worth over $100,000,000) financed up to Nov. 30, 1918



Government Helping to Eliminate Failures Among Motor Trucking Concerns

Free Advice and Forms for Keeping Records of Expenses Supplied by the Motor Transportation Division of the Bureau of Markets, United States Department of Agriculture, Through Philadelphia District Office

THE Motor Transportation Division, of the Bureau of Markets, U. S. Department of Agriculture, through its Philadelphia District Office, which is located at 308 Bourse Building, Philadelphia, has recently increased its activities by supplying motor trucking concerns in the Philadelphia District with free advice and forms, as illustrated herewith on the proper method of keeping account of operating costs.

The Motor Transportation Division has records of hundreds of motor trucking concerns and owner operators in the Philadelphia District showing how many trucks the concern operates, the total capacity, the principal commodities hauled, to what points outside of Philadelphia the trucks are operated and whether operated on regular routes and daily schedule. These confidential records are carefully studied to assist in solving the problems of the new motor trucking concerns and such concerns as would be destined to failure, due to the insufficient attention being given to the proper use of an operating cost system.

Recognizing the importance of the motor truck in transportation, the Bureau of Markets, after carefully studying operating conditions and records in use, evolved a system of cost accounting which is simple, complete, easily understood, and requires only a small amount of time. Operators now using these records know their cost of operation and are able to fix their rates so as to make a profit and at the same time give service at equitable prices.

Form Three Keeps a Record of Investment, Depreciation, and Tire Data.

Form MT-3. **U. S. DEPARTMENT OF AGRICULTURE**
BUREAU OF MARKETS

Truck No. .....

INVESTMENT.

Chassis		
Body		
Top		
Special Painting		
Freight		
Special Equipment		
Total		
Less Tire Value		
Total (Basis for figuring Depreciation)		

DEPRECIATION AND TIRE DATA.

Estimated life of truck ..... *miles (when new)*

Estimated life of tires ..... *miles (when new)*

Present mileage of tires
- *Front* — *Right* ..... *miles*; *Left* ..... *miles*
- *Rear* — *Right* ..... *miles*; *Left* ..... *miles*

Make and size:
- *Front* — *Right* ..... ; *Left* .....
- *Rear* — *Right* ..... ; *Left* .....

Form M. T. 1 **U. S. DEPT. OF AGRICULTURE, BUREAU OF MARKETS.**

DRIVER'S DAILY REPORT CARD.

Date *191*

Truck No. .....

OUTBOUND

Leave ..... *at* ..... *A. M. P. M.*

Arrive ..... *at* ..... *A. M. P. M.*

INBOUND

Leave ..... *at* ..... *A. M. P. M.*

Arrive ..... *at* ..... *A. M. P. M.*

Total mileage for day .....

Total load outbound ..... *lbs.*

Total load inbound ..... *lbs.*

No. of delivery or pick-up stops .....

Hours with helper ..... *cost* .....

Gasoline used ..... *gals. @* ..... *c*

Oil used ..... *pints @* ..... *c*

Grease used ..... *lbs. @* ..... *c*

Cost of repairs (if any) .....

Time laid up for repairs ..... *hrs.*

Ferries and tolls .....

Hours not running ..... *Reason* .....

.....

Tires Changed
- *Front* — *Right* ..... ; *Left* .....
- *Rear* — *Right* ..... ; *Left* .....

Reasons for removal .....

.....

Condition of roads .....

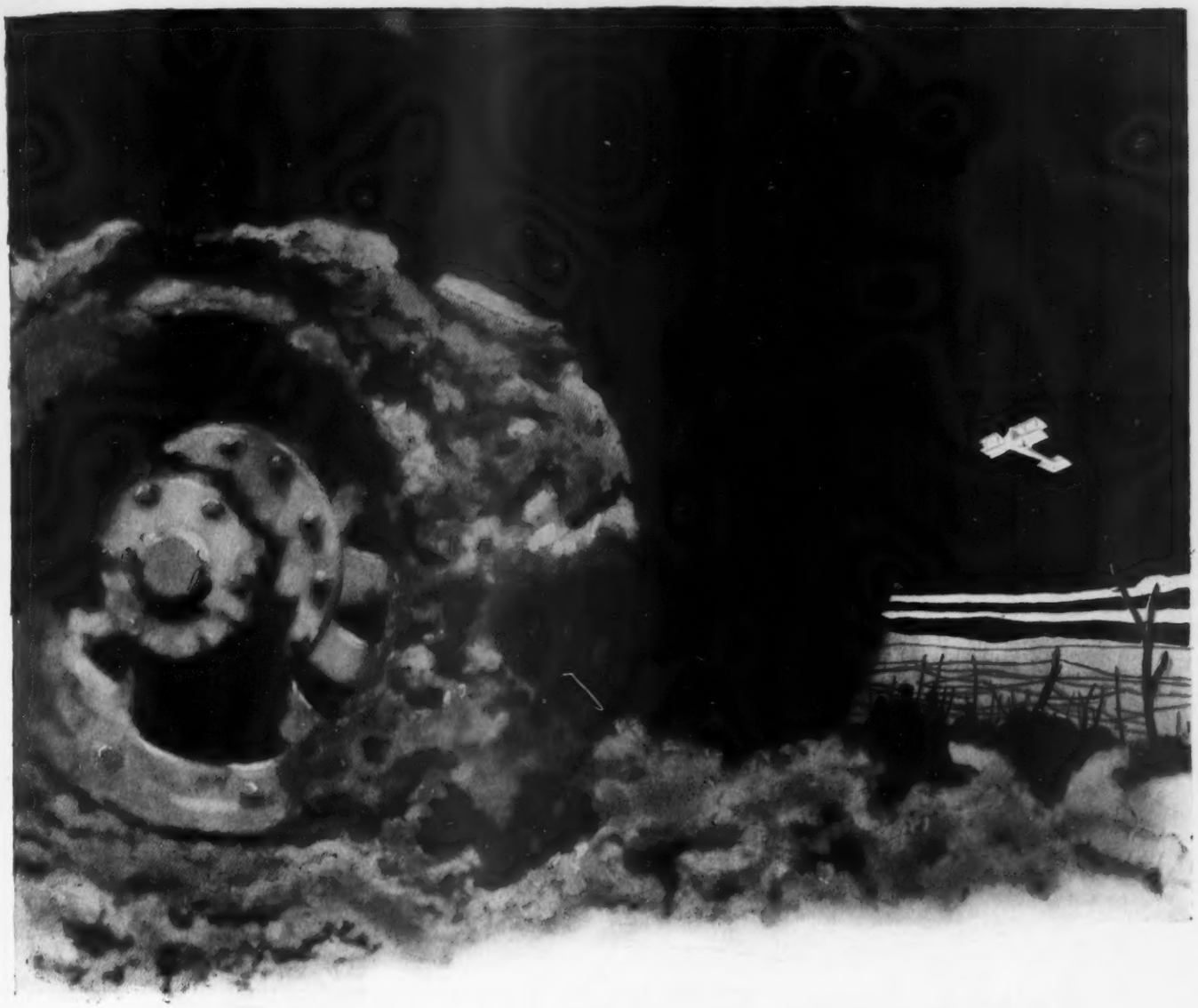
Remarks .....

.....

Driver

Form Number One is the Driver's Daily Report Card.

The records consist of four forms, one form to be completed daily and the other three monthly. Form number one is the driver's daily report showing miles covered, hours operated, load carried, amount and cost of gasoline, oil and grease. Other items such as tire changes, ferry tolls, repairs, condition of roads, etc., are also provided for. Form two is a monthly summary of the daily reports and also provides for gross revenue account. Form three is for keeping a record of investment, depreciation and



Through Ice, Snow, and Mud

—of shell-torn France, dependable UNITED STATES TRUCK TIRES performed with all the precision and effectiveness of seasoned veterans.

Such plunging and lurching over all manner of roads would "kill" ordinary tires—under such conditions none but GOOD tires could stand up.

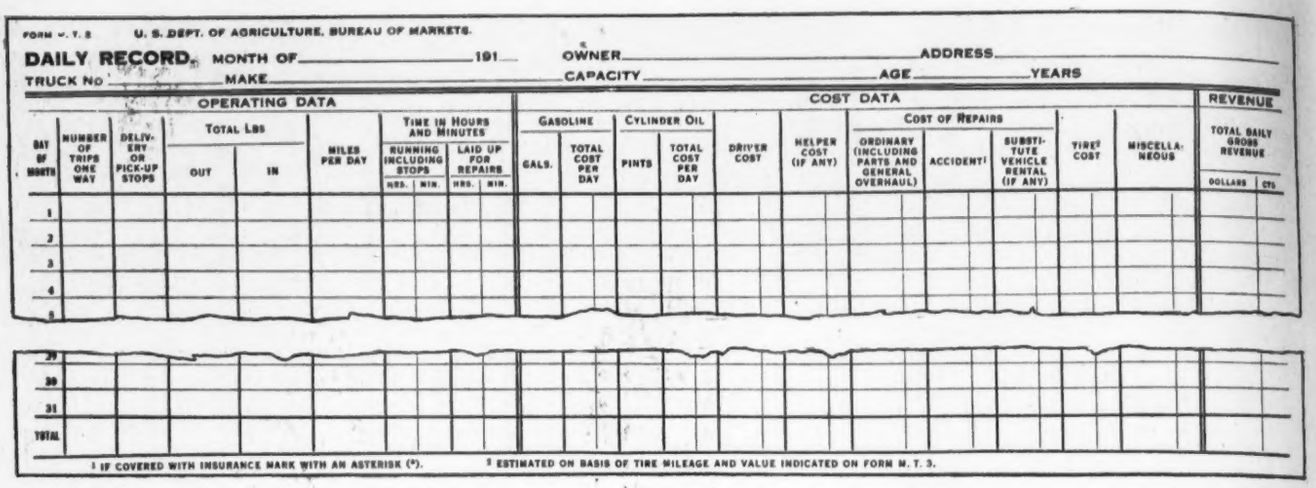
With the return of peace comes a demand for commercial carriers capable of greater speed under heavier loads.

Every day the question of tire equipment for these new fleets becomes more important.

'NOBBY CORD' PNEUMATIC TIRES increase the speed—cut repair bills—and protect the machinery of your customer's truck.

Stock a tire whose brilliant war record demands an A-A-1 rating in after-war transportation circles.

United States Tires
Are Good Tires



FORM M. T. 2 U. S. DEPT. OF AGRICULTURE, BUREAU OF MARKETS.

DAILY RECORD. MONTH OF _____ 191__ OWNER _____ ADDRESS _____

TRUCK NO _____ MAKE _____ CAPACITY _____ AGE _____ YEARS

	OPERATING DATA							COST DATA										REVENUE	
DAY OF MONTH	NUMBER OF TRIPS ONE WAY	DELIVERY OR PICK-UP STOPS	TOTAL LOG OUT	TOTAL LOG IN	MILES PER DAY	TIME IN HOURS AND MINUTES RUNNING INCLUDING STOPS HRS.	MIN.	TIME IN HOURS AND MINUTES LAID UP FOR REPAIRS HRS.	MIN.	GASOLINE GALS.	GASOLINE TOTAL COST PER DAY	CYLINDER OIL PINTS	CYLINDER OIL TOTAL COST PER DAY	DRIVER COST	HELPER COST (IF ANY)	COST OF REPAIRS ORDINARY (INCLUDING PARTS AND GENERAL OVERHAUL)	COST OF REPAIRS ACCIDENT[1]	COST OF REPAIRS SUBSTITUTE VEHICLE RENTAL (IF ANY)	TIRE[2] COST	MISCELLANEOUS	TOTAL DAILY GROSS REVENUE DOLLARS	CTS
1																					
2																					
3																					
4																					
5																					
29																					
30																					
31																					
TOTAL																					

[1] IF COVERED WITH INSURANCE MARK WITH AN ASTERISK (*). [2] ESTIMATED ON BASIS OF TIRE MILEAGE AND VALUE INDICATED ON FORM M. T. 3.

Above: Form Two is a Monthly Summary of the Daily Reports

Right: Form Four Provides for Fixed Expenses

tire data, while form four provides for fixed expenses. The time required to keep these records should not exceed five minutes per day.

The forms shown in the accompanying illustrations are given gratis to those interested and can be utilized by any one operating from one to fifty trucks. From the number of inquiries that have been received so far, it is apparent that the motor truck operators are taking a vital interest in this proposition.

Applications for these forms, and requests for explanations of the system should be made to Robert H. Black, Motor Transportation, U. S. Bureau of Markets, 308 Bourse Building, Philadelphia.

Form M. T-4 **U. S. DEPARTMENT OF AGRICULTURE, BUREAU OF MARKETS**

FIXED EXPENSE ACCOUNT

Truck No......

	YEAR ESTIMATED		MONTH ESTIMATED	
Interest on Investment				
Taxes				
License				
Garage (Rent, light, heat)				
Insurance:				
Kinds:				

Rowe Calk & Chain Company Joins Rice Leaders of the World Association

NEW YORK CITY, Jan. 25.—The Rowe Calk & Chain Co., of Plantsville, Conn., has become a member of the Rice Leaders of the World Association, thereby joining in a co-operative movement to foster greater appreciation for right business standards, and for products manufactured under those standards.

Included in the membership of this association are: Farrell-Cheek Steel Foundry Co., Frank Mossberg Co., L. S. Starrett Co., American Crayon Company, Packard Electric Co., and a number of others.

The Rowe Calk & Chain Co. manufactures the Prest-O-Grip anti-skid chain for automobile trucks, as well as removable horseshoe calks.

The officials of the company include Warren D. Chase, president; E. S. Bestor, secretary; H. R. Von Wessley, treasurer, and L. B. Powell, sales manager.

New Distribution Plan for Pyrene

NEW YORK CITY, Jan. 23.—A new plan of distribution has been adopted by the Pyrene Mfg. Co. It was put into effect shortly after the appointment of Walter Bauer as president.

Industrial and dealer business, heretofore handled directly by the company, has been turned over to the jobber, entirely eliminating all competition between the company and its distributors. Pyrene salesmen will work with distributors' salesmen in developing business. An intensive advertising campaign designed to aid the dealer is now in progress.

The company has offices in Atlanta, Cleveland, Chicago, Kansas City, New York and San Francisco. The officers of the company for this year are: Walter Bauer, president; Edward J. Waring, vice-president and general manager; Edward A. Clapp, secretary and treasurer, and G. P. Rogers, general sales and advertising manager.

Acme Salesmen Meet

CADILLAC, MICH., Jan. 17.—The 1919 sales conference of the Acme Motor Truck Co., held recently, was one of the most successful and enthusiastic conferences ever held by the Acme company.

In connection with this conference, the Acme company makes the announcement that H. L. Browne, who for several years past has been connected with the Service Motor Car Co., has joined the sales force of the Acme Motor Truck Co., and will act as factory representative in Colorado, Wyoming, New Mexico and Utah.

Other additions and changes in the Acme organization are as follows:

J. E. Bowles, who has been with the company for the past year, as special representative in the middle western states, has been transferred to the Pacific Coast, with headquarters at San Francisco.

George P. Gould will act as factory representative in Massachusetts, Maine, New Hampshire and Vermont.

Sewell Cushion Wheels



AN INVESTMENT IN SEWELL CUSHION WHEELS PAYS BIG DIVIDENDS

The soft rubber cushion in the Sewell wheel construction absorbs jars and shocks to such an extent that truck maintenance is reduced from $1 to $3 per truck per day, depending on the loads hauled and mileage.

Sewell wheels protect every part of the truck and its load against damage from excessive vibration, and at the same time permit operating at greater speed with minimum wear and tear and depreciation.

Hundreds of firms have proven that the use of Sewell Cushion Wheels increases tire mileage over fifty per cent. In addition, the wonderful protection afforded by Sewell wheels lengthens the working life of a motor truck, thus adding to its earning power, as the longer a truck will last, the more profitable the investment.

See our Exhibit at the Motor Truck Shows



A folder, "Of Interest to Motor Truck Dealers," will be mailed on request

BRANCHES:

Baltimore, Md.
Boston, Mass.
Buffalo, N. Y.
Chicago, Ill.
Cincinnati, Ohio
Cleveland, Ohio
Columbus, Ohio
Dallas, Texas
Detroit, Mich.
Indianapolis, Ind.
Jacksonville, Fla.
Kansas City, Mo.
Los Angeles, Cal.

BRANCHES:

Louisville, Ky.
Milwaukee, Wis.
Minneapolis, Minn.
Newark, N. J.
New Orleans, La.
New York, N. Y.
Philadelphia, Pa.
Pittsburgh, Pa.
Rochester, N. Y.
San Francisco, Cal.
Seattle, Wash.
Springfield, Mass.
St. Louis, Mo.

Sewell Cushion Wheel Company

Main Office and Factory: Detroit, Michigan

How the Motor Truck Helps in Live Stock Production

By JOE KELLY

HOW the motor truck has aided the State of Indiana in the development of the live stock industry in taking care of shipping to public stock yards, is recorded by State Veterinarian L. E. Northrup in his annual report of the work of the department made to Governor James P. Goodrich.

Without the motor truck Indiana would not have been able to do the wonderful things that the state accomplished in 1918 in solving the transportation problems incident to the live stock industry.

The farmers of the state were dependent upon the motor truck, not only for the transportation of grain to feed the stock, but for a large part of the transportation of the fed out animals, particularly hogs, to the public stock yards at Indianapolis, Evansville, Terre Haute, Fort Wayne and LaFayette.

"Much of our success in our campaign for increased animal food production," says Dr. Northrup, "has come about through the use of the motor truck by the stock raisers, furnishing quick transportation from country to city, from farm to farm and from farm to stock yards.

Use of Trucks Prevent Losses

"Perhaps more stock was transported in Indiana than any other commodity, and the stock yards at Indianapolis, where five hundred trucks arrived daily with loads of stock, showed the amount of stuff carried in the motor trucks, showed how the people were dependent upon those trucks and how much could be saved the farmer through this increased production in the prevention of shrinkage in hogs, in loss of weight and in loss by death."

Indianapolis has the largest public stock yards in Indiana, and next to the Chicago stock yards and the Kansas City stock yards and perhaps one other, the Indianapolis stock yards, tops the list in the receipt of hogs. The big majority of these loads are carried in on motor trucks.

"Because of this motor truck service," says State Veterinarian Northrup, "the Indianapolis stock yards had the most remarkable year in its history—its receipts broke all records."

A daily average of 9,000 hogs, 100 cattle, 400 calves and 400 sheep passed through the stock yards, and the largest part of these were hauled in motor truck from fifty mile radii of Indianapolis.

Increased Business Results From Use of Trucks

This motor truck use, points out Dr. Northrup, was developed largely in 1918, and the comparisons of business in the Indianapolis market with 1917 and 1916 are interesting, it being understood that this increased business was furnished largely through increased hauling abilities to the Indianapolis market.

	1918	1917
Hogs	$105,220,916	$72,684,572
Cattle	36,775,849	26,443,717
Calves	2,917,481	2,497,614
Sheep	1,490,054	1,171,255
	$146,404,300	$102,797,158

The total for 1916 was $69,993,726.

Of course these figures do not show the increased efficiency of the motor truck and its exact value in dollars in the transportation of live stock to Indianapolis, but the five hundred trucks in daily use, when that kind of transportation was at its height, show how the people of Indiana depended on the motor truck for the transportation of animal food.

Return Hauls Increased Service

Because of this great number of trucks arriving at the Indianapolis stock yards daily, the Return Loads Bureau of the Indianapolis Chamber of Commerce evolved a plan of utilizing these trucks in the return hauls, a plan which was not perfect, but which increased the motor truck service in Indiana, put the rural towns and districts in direct touch with the Indianapolis wholesaler and the city man in direct touch with the producer from the country.

Watching these motor trucks humming over Indiana's highways carrying loads of stock, Dr. Northrup has been a big force in massing this part of the state's assets.

"The motor truck in the future will do much of the live stock transportation," said Dr. Northrup, "only the long hauls being reserved for the railroads. Distance of one hundred miles or less can be done for the better condition of the stock in the motor trucks.

"I do not know whether I can give all of the advantages of the motor truck in carrying this live stock. Speed is valuable. Markets change quickly. If the farmer wants to sell tomorrow in Indianapolis, fifty miles away, he loads his stock in a motor truck. Perhaps he had enough stock for a motor truck load. In the old days if a freight car were needed he had to search the neighborhood for other farmers with stock to ship to Indianapolis. The shrinkage in the hogs is less. They arrive in better condition, with more 'pep' and healthier.

"The chance of infection in freight cars or railroad transportation is greater than by the use of the motor truck.

"The utility of the motor truck has given me a big idea which has met the support of all the stock raisers in the state. By the use of the motor truck in furnishing quick transportation in Indiana, I see the idea of making Indiana self-sustaining in its hog production and hog feeding.

"Indiana, so far as hog production is concerned, may be divided into sections, the north and south, the north being in the corn belt with rich acres raising golden harvests of corn, and this corn can be well fed—and is fed to hogs—to the profit of the farmer. But he must buy the feeder pigs elsewhere, and in the past he has gone to the south, southwest and west for these pigs weighing one hundred pounds.

"Transportation has not been easy. The hogs have found it hard and many have become sick and died. And from the standpoint of Indiana we have sent some of our resources out of the state.

"The south part of the state should furnish these pigs, and we are now showing the southern farmers how they can raise these pigs up to one hundred pounds and then send them to northern Indiana for feeding out purposes.

"The southern part of Indiana does not raise these golden acres of corn, but it does have the ideal conditions to raise these light pigs. Its land is comparatively cheaper and the raising of these pigs gives the southern Indiana farmer another means to make his activities more productive and to increase his income.

"By the use of the motor truck his pigs can be carried quickly to the farm in the north and they arrive there healthier and not suffering from the shock of a long, tiresome journey which they would have had on the railroad.

"The farmer of the north wants the pigs and is always ready to buy them, because they are better pigs than he can get out of the state, he says, and with the greater highway system Indiana is to have, the opportunities for this sectional cooperation will be greater."

U. S. Department of Labor, Training and Dilution Service, 618 Seventeenth St., N. W., Washington, D. C., is issuing a series of Training Bulletins. Training Bulletin No. 1 gives information concerning the starting of a training department in a factory. Training Bulletin No. 2, under the title of "A Successful Apprentice Toolmakers' School," treats of the methods used by a large manufacturing company for training new employees to operate machine tools and for sub-assembly work, and to up-grade experienced operators for work in the toolroom. "Training Employees for Better Production" is the title of Bulletin No. 4 and Bulletin No. 5 contains suggestions on training labor for peace time.

Pedigreed Gears.—The tractor department of the R. D. Nuttall Company, 2133 Conway Bldg., Chicago Works, Pittsburgh, Pa., has just published an attractive illustrated book entitled "Pedigreed Gears." The publication furnishes a description and explanation of Nuttall tractor gears for the benefit of tractor owners and tractor manufacturers. The book also contains valuable information on the causes of gear troubles and inefficiency.

SIVYER S CASTINGS

The Sivyer Service of providing Electric Steel Castings has for its objects the decrease of machining costs and the increase of wearing-quality and life. Both are attained by methods which result from long experience and begin with the design of the casting itself. When we find that a casting we are asked to furnish is of a design not consistent with good foundry practice, we study its function in the completed unit and offer the necessary suggestions to make it a really practicable casting job without affecting in any way its function and efficiency.

Secondly, Sivyer Service analyzes the functions of the casting and specifies the proper composition steel for the job; long experience with carbon and alloy steels has enabled us to reduce costs and increase quality remarkably for many different industries.

Thirdly, Sivyer Service makes a careful study of the pattern and molding problems involved, for improper gating and insufficient risers are often the greatest wasters of machining labor and metal.

Fourthly, Sivyer Service analyzes carefully the proper annealing methods to be used and controls their proper application through unfailingly efficient equipment and men. In short, the Sivyer Service supervises every step necessary to secure unusually and unfailingly good castings of electric steel. It never relies on one factor alone, relies very little on the natural freedom of electric steel from occluded gases and on its commonly recognized merit in resisting crystallization. It also depends but little on the inherent scientific accuracy of the electric furnace process. From casting-design to sand-blasting and tumbling, the fundamental superiority of Sivyer Steel is due to its men and metal. Their value is best proved by the fact that, although the production of steel castings is generally looked upon as a local one, the Sivyer market is national.



Pattern for bull gear, mounted on stripping plate molding machine.

IN the making of Sivyer Castings, all the men, methods and metals employed, work to one end—uniform excellence. Even so seemingly slight a factor as the hardness to which the molding sand is compacted, is freed from the variations inherent in the use of muscle power only, and made uniform for each job by the use of molding machines scientifically superintended. In this way Sivyer Castings are freed from the surface defects due to loose molds and from the interior flaws and faults due to gases imprisoned by molds that are too hard. The low machining costs thus obtained have greatly aided in winning for Sivyer Castings their national market.

SIVYER STEEL

SIVYER STEEL CASTING COMPANY, MILWAUKEE

Winter Driving Hints for the Truck Operator

THE International Motor Co., of New York City, has recently issued a series of booklets giving expert advice on the care and operation of Mack trucks during freezing weather. Although these instructions are intended primarily for Mack owners, the extracts taken from these booklets are applicable to practically any make of truck. The advice is well worth remembering.

General:—In freezing weather when trucks have been allowed to stand in the open for a long period of time, the following instructions and hints should be adhered to if serious trouble and inconvenience would be avoided. It is better business to take hours getting everything ready for the start and leave the truck intact and not in need of repairs, than to spend only a few minutes trying to get started quickly and paying the repair bill afterward.

If truck has been left standing in snow or ice and the wheels have frozen to the ground, the wheels should be loosened with a crowbar or jack and the truck pushed by hand or towed a few feet to another spot before starting, but under no circumstances should the power of the engine be used to start the truck, until the ice joint has been broken. All movable connections, such as universal joints, brakes, brake connections, cams, clutch connections, brake shafts clevises, etc., that may be frozen fast should be broken loose with kerosene and light oil. The power of the engine should not be applied for this purpose as serious clutch or bearing trouble or breakage may result.

Engine:—A frozen engine should first be freed till it can be turned over by hand easily. Open the cylinder compression cocks and prime the engine with gasoline to remove moisture and to free the pistons, turn engine over by hand to clean out gasoline, then with an oil gun squirt light lubricating oil into the cylinders to replace that cut by the gasoline and to prevent scoring the cylinders. Remove the hand hole covers from the crankcase and with an oil gun squirt light lubricating oil into the main bearings, connecting rod bearings, wrist pin bearings and camshaft bearings, as these parts will get little lubrication till the congealed oil in the crankcase is warmed.

Warming Up Engine:—This will prevent burned out bearings. Replace the covers and run engine slowly until it is heated up.

If the engine will not heat up idling, cover front of radiator and retard spark and speed up gradually for about ten minutes. Do not race engine, especially during the first two minutes.

Lubrication:—Open the cylinder oil tank cover immediately after engine is started and see that the lubricating oil flows freely, if not, stop the engine before bearings are destroyed or cylinders scored and pour light lubricating oil into the engine through the cylinder oil tank. Make sure that the oil pump is working, if necessary remove it for inspection.

Fuel System:—If the engine is hard to start, pour warm water over the manifold to aid vaporization of the gasoline, make sure no water enters auxiliary air valve, pour warm water over the gasoline pipe to warm fuel. If water has frozen in the gasoline tank, gasoline pipe or carburetor, melt it by applying warm water, then drain off the water and remove and clean strainers in gasoline tank and carburetor. Don't crack the glass float chamber of the carburetor by pouring boiling water over it and don't flood carburetor with water.

All gasoline should be drained from the fuel system if truck is to be allowed to remain in the open for any great length of time to prevent the freezing of any water that may be contained in the fuel.

Ignition System:—Remove the spark plugs and see that each sparks properly as moisture may have frozen on the points, which must be cleaned off as it causes short circuit. Inspect magneto terminals, breaker box and distributor and remove frozen moisture as this also causes short circuit.

Inspect all wires to see that they are not short circuited by freezing. Inspect the terminals of the auxiliary vibrating coil and clean if frozen moisture is present.

Inspect the battery and see that it is not short circuited by ice formed across the terminals. If the engine starts hard, it may be due to the lowered efficiency of a cold battery; if so, remove it and place it in a warm place.

Cooling System:—Do not put hot water in the cooling system of a frozen truck, as the sudden change of temperature is likely to crack the cylinder jacket or cause leaks elsewhere in the system. Use warm water until the temperature of the cylinders has risen to a noticeable degree. When operating in freezing weather, put alcohol in water of cooling system.

Transmission:—Pour warm water over the transmission case to heat the gear grease so that it will soften and allow the gears to turn easily. If transmission oil is hard, soften by adding one gallon lubricating oil. Put the gears successively in all speeds, jack up the rear wheels and turn over the engine by hand a few times before starting.

Rear Wheels:—Jack up one rear wheel at a time, put the gears in neutral and turn the wheels by hand a few times to free the bearings, the drive chains and the differential.

Clutch:—Move the clutch pedal forward a few times, first turning the grease cup and oiling the lever pins with kerosene and light oil. Throw out the clutch pedal and turn over the engine by hand, leaving the gears in speed to free the clutch lining from the flywheel.

Cold Weather Hints

Under this heading advice is given to add alcohol or some anti-freezing solution to the cooling water, or to draw water off if truck is left standing for any great length of time.

To secure traction in snowy weather the truck should be equipped with a shovel, small pick, box of sand, and a set of skid chains for the rear wheels.

Stopping:—When coming to a standstill, release brakes just before coming to a full stop, so that truck will roll the last few inches.

This will avoid formation of ice under the wheels which causes them to spin when starting.

Start slowly. Do not attempt to force truck ahead faster than wheels will take hold. Spinning wheels, with or without chains, will not send truck ahead unless there is traction. If traction is lacking get out with shovel and sand and make it.

Do not, under any circumstances, grind skid chains between rubber tires and a hard road surface. Chains are intended for use in soft mud or snow. When the wheels cut through to hard road surface remove chains at once.

Feed small amount of gas, let clutch in slowly, and you will find that wheels do not spin. Accelerate gradually. A slippery road surface does not offer the resistance of a dry road, and therefore the same rate of acceleration is not necessary or possible, as the excess acceleration produces spinning wheels.

"Do not drive down hill any faster than you can drive up."

Stromberg Report Shows Big Profits

An increase of $100,000 over the earnings for the entire year 1917 is shown by the Stromberg Motor Devices Co., Chicago, in its report of business for the nine months ended September 30 last. Net earnings totalled $431,533. A net income of $422,062 remains after deducting $19,573 for taxes, expenses and charges. Surplus, after further deductions for income and other Federal taxes, was $226,670.

Stromberg Motor Devices Co., of Illinois, reports net sales for this nine-month period, of $1,804,773; cost of sales, $1,221,727; gross profit, $583,046; expenses, $140,122; balance, $442,924; other income, $5,486; total income, $448,410; interest and other charges, $16,877; surplus, $431,533. According to the balance sheet as of September 30, cash in banks and on hand amounts to $21,620; accounts receivable, $305,669; surplus, $1,261,917, and total assets and liabilities, $1,852,913.



There is a big difference between "Oversize"—and *Balanced Oversize*

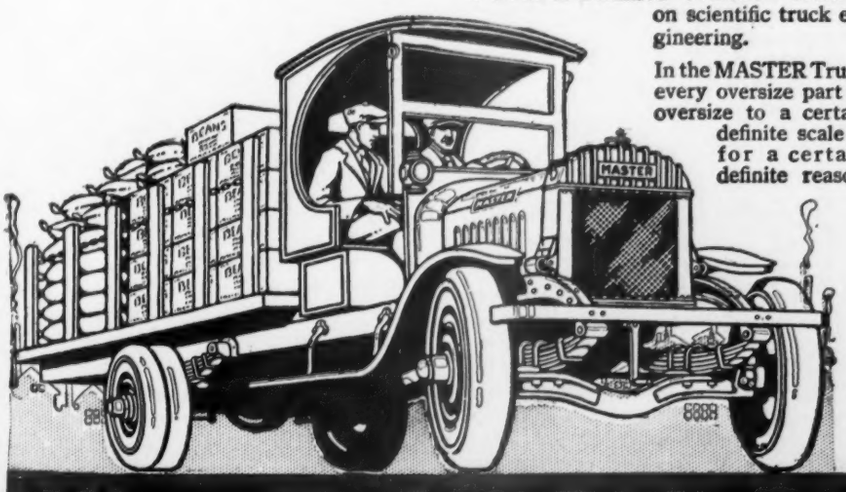
MANY A TRUCK is oversized in one or a few specific parts of construction. A truck is only as strong as its weakest part. Making the motor or frame oversize, without scientifically balancing its oversize with other working parts, means only the addition of a short-lived sales argument.

BALANCED OVERSIZE means long-lived ***performance!***

MASTER TRUCKS

Sixteen years of successful truck-building experience has developed in the MASTER a truck of Balanced Oversize—founded on scientific truck engineering.

In the MASTER Truck every oversize part is oversize to a certain definite scale—for a certain definite reason.



Balanced oversize is the big engineering idea back of MASTER Trucks. It keeps them on the road instead of in the repair shop. Balanced oversize gives uninterrupted service at a cost so low that the owner realizes that a MASTER Truck is an investment, not an expense.

That's why the sale of one MASTER Truck starts the sale of a fleet of MASTERS.

Wouldn't you like to sell the MASTER—the truck with balanced oversize throughout?

Your territory may be open—write!

MASTER Trucks are of 10 models in five sizes—1½ to 6 tons.

MASTER TRUCKS, Inc.
3132-3138 S. Wabash Ave.
CHICAGO, ILL.

MASTER OF THE LOAD ON ANY ROAD

Metal and Rubber Markets

Tone of Steel Industry Considerably Improved. Export Boom Becomes Reality

Now that ocean freight rates, as quoted by both American and British shippers have been materially lowered, the general tone of the steel industry is considerably improved.

There is now a much better outlook for the shipment of products overseas, and there is an increased interest on the part of domestic consumers, owing to the maintenance of the present price levels on the various grades.

Wages now being paid labor are identical with those paid during the war, and there will be no reduction, the steel producers say, until the cost of living is reduced.

Steel Products Prices

Per ton, Pittsburg—	
Bessemer billets	$43 50 a 47 50
Open hearth	43 50 a 47 50
Forging billets	56 00 a 60 00
Sheet bars	47 00 a 51 00

Sheets

The following prices are for 100-bundle lots and over f.o.b. mill:

Blue Annealed Sheets—	
Pittsburg	$3 90 a 4 25
Philadelphia	4 13 a 4 48
Chicago	4 115 a 4 465
Galvanized Sheets of Black Sheet Gauge—	
Pittsburg	$6 05 a 6 25
Chicago	6 32 a 6 75
Tin—Mill Black Plate—	
Pittsburg	$4 70 a 5 00

Iron and Steel at Pittsburgh

Bessemer iron	$32 00 a 35 20
Bessemer steel, f.o.b. Pitts.	43 50 a 47 50
Skelp, grooved steel	2 70 a 2 90
Skelp, sheared steel	3 00 a 3 25
Ferromanganese (70%)	220 00 a225 00
Steel, melting scrap	20 00 a 21 00
Steel bars	2 70 a 2 90

Prices of Finished Products

A general recession has occurred in brass products with a corresponding decline in copper products, due to the present dull and uncertain tone of the copper market. The following prices are current on brass and bronze items:

Sheet aluminum, 18 ga. and heavier	$42 00a ....
Copper sheets, hot rolled	29 00a33 00
Copper sheets, cold rolled	30 00a34 00
Copper bottoms	37 00a41 00
Seamless tubing, bronze	37 00a39 00
Cut lead sheets	9 25a ....
Copper rods	20 50a ....
Copper wire	22 75a ....
High brass wire	24 75a26 75
High brass sheets	24 75a26 75
High brass rods	23 75a25 75
Low brass sheets	26 75a28 75
Low brass wire	26 75a28 75
Low brass rods	27 50a29 50
Brazed tubing, brass	35 75a37 75
Brazed tubing, bronze	40 25a42 25
Seamless tubing, brass	34 00a36 00
Seamless tubing, copper	35 00a37 00

COPPER.—The copper situation is unchanged and there is no outstanding feature in the market. The same dull conditions prevail which were operative after it had been decided that there should be an open market on the first of the year. The ending of the war demand for copper resulted in the piling up of considerable stocks of material and at present the producers are strongly of the opinion that the only way to guard against a topheavy market when buying is by curtailing production to the lowest possible level.

This has resulted in the release from employment of a large proportion of the miners throughout the producing districts. The meeting of the representatives of the miners with the Department of Labor recently was proof conclusive, if proof was needed, that while justified on theoretical grounds, the shutdown in operations has worked hardships with the laboring classes. The large producers, feeling that there must of necessity be a resumption of buying when the present surplus is exhausted, have maintained the level of 23c per pound for copper. The smaller producers have shaded their prices so that it is now possible to secure supplies at prices ranging from 18¾c per pound to 20c, according to delivery time.

ALUMINUM.—A base price for aluminum of 33c a pound, f.o.b. producing plant for 50 tons and over for ingots of 98 to 99 per cent. has been established by the War Industries Board. The price became effective June 1. It has been stated that the maximum basis prices for aluminum will remain in force until March 1, 1919.

TUNGSTEN.—The market is nominal in the absence of demand from consumers. No prices are being quoted because of present stagnation. Last quotations on high grade Wolframite and Scheelite ranged around $15.

Prices of Old Metals

There is a fair demand for aluminum and scrap tin, otherwise the market is quiet. The following prices are current:

	Buying.	Selling.
Aluminum—		
Cast scrap	17½a18	18½a18¾
Sheet scrap	18 a18¼	19 a19¼
Clippings	20½a21	21½a22
Copper—		
Heavy machinery comp.	14 a14½	15½a16
Heavy and wire	13½a13¾	14½a15
Light and bottoms	12 a12½	13 a13½
Heavy, cut and crucible	14½a15	15½a16
Brass, heavy	7½a 8	8½a 9
Brass, light	6¾a 7	7¼a 7½
No. 1 clean brass turn'gs	7 a 7½	8 a 8½
No. 1 comp. turnings	12½a13	13½a14
Lead, heavy	4 a 4¼	4⅜a 4½
Zinc scrap	3¾a 4	4½a 4¾
Block tin, scrap	52 a55	58 a60

Rubber Market Quiet

Although the rubber market remains steady, buyers are manifesting little interest, and their attitude is characterized by extreme conservatism. They are limiting their purchases to comparatively small lots. Export inquiries are being received, however, in increasingly large volume.

Prices of crude rubber, quoted Feb. 3, were:

Para—Up-river, fine, per lb.	58½a ..
Up-river, coarse	34 a ..
Island, fine	49 a ..
Island, coarse	22¾a ..
Caucho, ball, upper	33½a ..
Caucho, ball, lower	.. a ..
Cameta	23 a ..
Plantation—First latex, pale crepe	56 a ..
Brown, crepe, thin, clean	50 a ..
Smoked, ribbed, sheets	54 a ..
Centrals—Corinto	37 a 39
Esmeralda	37 a 39
Guayule, wet	35 a ..
Guayule, washed and dried	46 a ..
Balata, sheets	90 a ..
Balata, block, Ciudad	.. a 75
Balata, block, Panama	55 a 60
Mexican—Scrap	39 a ..
Slab	32 a ..
African—Massai, red	55 a ..

Avery Buys Champion

CHICAGO, Jan. 16.—The International Harvester Co., in accordance with the decree of the court that it dispose of the Osborn, Milwaukee and Champion lines, has sold the entire Champion harvesting machine business to B. F. Avery & Sons, Louisville, Ky. The Osborn business was sold last summer to the Emerson-Brantingham Co., following the agreement between the company and the department of justice.

Reading Republic Truck Agency Changes Hands

L. H. Fisher, who has been in charge of Republic truck interests in Reading, Pa., territory, sold out the business a few weeks ago to W. E. Bridegam, 240 S. Penn St. It is probable that the new agent will take over the sales and showroom that L. H. Fisher has been using, at 16 S. Fourth St. The service shop and garage, however, will be in the rear of the Penn St. office.

Mr. Fisher has other interests which are given as the cause for his abandoning the truck business. The new dealer, before the war, was agent for the Nash, Winton and National Passenger cars, and the Nash truck, which he was compelled to give up in order to devote all his time to government work in the electrical contracting business.

Philadelphia Has Progressive Organization

The Automobile Accessories Business Association is the first organization of its kind in this city and bids fair to be classed among the best in the country. It is growing steadily each month and now has a membership of over 150, which is expected to be materially increased in the very near future. It already includes many of the best-known men in the trade. W. H. Metcalf, of Wire Wheel Corp., is the president, and Albert W. Stellwag, secretary, with offices at 716 North Broad St.

Distinctively Best By Any Test



IN spherical accuracy, size dependability, structural strength, surface finish and working durability Hoover Metal Balls are the recognized standard of the world.

Steel—Bronze—Brass—Aluminum Balls—Solid and Hollow In All Sizes for Every Purpose.

HOOVER STEEL BALL COMPANY
Ann Arbor, Michigan, U. S. A.



1899 Twentieth

It is fitting that the year 1919, so full of promise as the most eventful in the World's history, should be the Anniversary of just Twenty years of the World's most revolutionary, industrial-history-making Truck Tire.

Since 1899

POLACK

TRUCK MANUFACTURERS WHO HAVE

Chicago Pneumatic Tool Company	Little Giant	Regular Equipment
Dearborn Truck Company	Dearborn	Regular Equipment
H. J. Koehler Motors Corporation	Koehler	Regular Equipment
Stewart Motors Corporation	Stewart	Regular Equipment
Hedden Place Machine Company	Stevenson Unit	Regular Equipment
George C. Bozarth	Bozarth	Regular Equipment
Federal Motor Truck Company	Federal	Regular Equipment
Atterbury Motor Car Company	Atterbury	Regular Equipment
J. C. Wilson Company	Wilson	Regular Equipment
Maccar Truck Company	Maccar	Regular Equipment
Hurlburt Motor Truck Company	Hurlburt	Regular Equipment
Rowe Motors Corporation	Rowe	Regular Equipment
Hahn Motor Truck & Wagon Company	Hahn	Regular Equipment
Corbitt Motor Truck Company	Corbitt	Regular Equipment
Philadelphia Truck & Unit Company	Phila. Truck & Unit	Regular Equipment
Rayford Unit Company	Rayford Unit	Regular Equipment

Your Opportunity

With over a half million trucks in service in 1918
With an immense increase ahead in 1919

With only fifteen makers of standard truck tires to share this truck tire business aggregating a quarter of a billion dollars
With a greater demand than ever for *quality*, for *maximum value*, for *mileage plus*—

POLACK TYRE &

1876 Broadway

1919 Anniversary

In the Twenty years of specialization in building Polack truck tires of such superior quality that their remarkable record of long mileage made Polack construction the "World's Standard," there has been built up in the Polack product a reputation that carries commanding prestige in bringing a greatly increased and profitable business within the reach of Polack dealers.

TRUCK TIRES

World's Standard



CONTRACTED WITH POLACK

Pierce-Arrow Motor Car Company	Pierce-Arrow	Optional Equipment
Autocar Company	Autocar	Optional Equipment
Signal Motor Truck Company	Signal	Optional Equipment
Commercial Truck Company of America	Commercial	Optional Equipment
Day-Elder Motors Company	Day-Elder	Optional Equipment
Lewis-Hall Iron Works	Lewis-Hall	Optional Equipment
Acason Motor Truck Company	Acason	Optional Equipment
Sewell Cushion Wheel Company	Sewell	Optional Equipment
Selden Motor Truck Company	Selden	Optional Equipment
Walker Vehicle Company	Walker	Optional Equipment
Winther Motor Truck Company	Winther	Optional Equipment
Couple Gear Freight Wheel Company	Couple Gear	Optional Equipment
Lange Motor Truck Company	Lange	Optional Equipment
Fruehauf Trailer Company	Fruehauf	Optional Equipment
Columbia Motor Truck & Trailer	Columbia	Optional Equipment
Moss Rebuilt Truck Company	Moss	Optional Equipment

Consider the Opportunity for Profit Polack Truck Tires Offer You

DEALERS: A Truck Tire of such enviable reputation as the Polack product enjoys means big business-building possibilities for you.

Increase your prestige while adding to your profit. Write us for details of attractive dealer proposition.

RUBBER Co.
New York

Problem of Quick and Economical Handling of Dairy Products Solved by Motor Trucks

By E. E. PIERSON

SNOW & PALMER, dealers in milk and cream, and manufacturers of ice cream, both for the retail and wholesale trade, located at Bloomington, Ill., were the pioneers in that section to adopt trucks for long distance hauling. Their dairy farm is at McLean, nineteen miles south, too far for the successful utilization of horses, while the expense of handling by express on the railroad was regarded as prohibitive.

It was finally decided to buy a truck and, six years ago, a two-ton Packard was placed in service, making the round trip of 38 miles daily. It was found that three tons of milk and cream could be handled on the return trip, while some business was developed in handling groceries and other products for the merchants of McLean, in addition to the empty cans. This side business has been steadily increasing until it reaches the capacity of the truck to handle.

The average time consumed in loading and unloading and in making the round trip is about six hours. During the remainder of the day the truck is engaged in handling coal, ice and other supplies for the factory, and in making wholesale deliveries of cream, ice cream, etc. This truck was kept in constant service for three years. It was then found expedient to add a five-ton Saurer to take care of a steadily increasing tonnage, both to and from McLean. This gave a reserve power that added to the efficiency of the movement, as previously, the Packard had been crowded and overloaded, inviting trouble in the effort to take care of the business offered.

In rush seasons, when the demands upon the truck grew heavy, the Saurer was found adequate and maintained the full demands of the tonnage with the requisite speed. So satisfactory has been its experience with trucks that the firm is willing to charge off the entire cost of each machine in four years, figuring that each paid for itself in that period of time.

While it would be difficult to figure the expense of operation, yet it has ranged approximately around 20 to 30 cents per ton-mile in one direction, while figuring for the round trip of 38 miles it is about 8 to 12 cents per ton-mile.

Good Highways Simplify Delivery Problems

Snow & Palmer are truck enthusiasts and use these machines for city deliveries of milk and ice cream. They are gradually abandoning all horses, and now have but few on hand. They concede that good roads are a necessity for successful operation of trucks and could not operate over the long distance route to McLean and back but for the fact that the highways between the two cities are well maintained. They say that trucks can be operated on muddy and ill kept roads, if necessary, but for long distance hauling and moving milk and cream, they would not recommend their use for distances exceeding fifteen miles, if railroads are available. They have figured that the operation of a five-ton truck for a distance of 15 to 20 miles running at a speed not above two miles per hour would not be wise nor profitable for their line of transportation, if they could utilize the trolley or steam roads.

The trucks have an advantage in proceeding directly to the farm, picking up the cans of milk, and then proceeding directly to the factory, eliminating the loading at the McLean depot and the unloading at the Bloomington depot, while the ability to handle the side tonnage at either city, proceeding to any point designated, with the consumption of but little additional time and expense, are factors in reducing the expense of transportation that are so well recognized that it is scarcely necessary to refer to them here.

This enterprising firm expects to steadily increase its field of operations in rural deliveries as the roads are improved, and is planning a system of ice cream deliveries that will take in a chain of villages in McLean county, adjacent to Bloomington. They believe that there is an inviting field for the sale of their product, and, by utilizing motor trucks, cut down the expense of transportation fifty per cent. at least, while the prompt service possible and the movement as soon as the ice pack has been placed, will save expense in ice. They believe that the motor truck will prove a notable factor in promoting the wholesale ice cream business in the rural districts and are laying their plans accordingly.



Five-Ton Truck With Which Snow & Palmer, Bloomington, Ill., Solved the Problem of Quick and Economical Handling of Dairy Products Between the Farm and the City

Livingston Plant Taken Over by New Company

NEW YORK CITY, Jan. 20.—As a result of increased production induced by large war contracts, the Livingston Radiator Corp. has taken over the old plant of the Livingston Radiator & Mfg. Co. on West Seventy-fifth St., and will produce radiators on a much larger scale than before the war. E. S. Hines is president and general manager of the new company, D. McRae Livingston, inventor of the Livingston radiator, vice-president and consulting engineer; F. K. Seward, secretary and H. M. Bailey, treasurer.

The capacity of the plant at present is 200 radiators per day, and, with the experience gained in quantity production through the manufacture of radiators for Liberty engines, the company expects to go after business in earnest.

THE BUDA COMPANY
BUDA ENGINE
High Class
ESTABLISHED 1891
BUILT FOR HEAVY DUTY

Buda

YEARS from now the Buda Engine in your truck will be the same Buda with the same, never-ending power—game to the core, and ready to pull to the last turn.

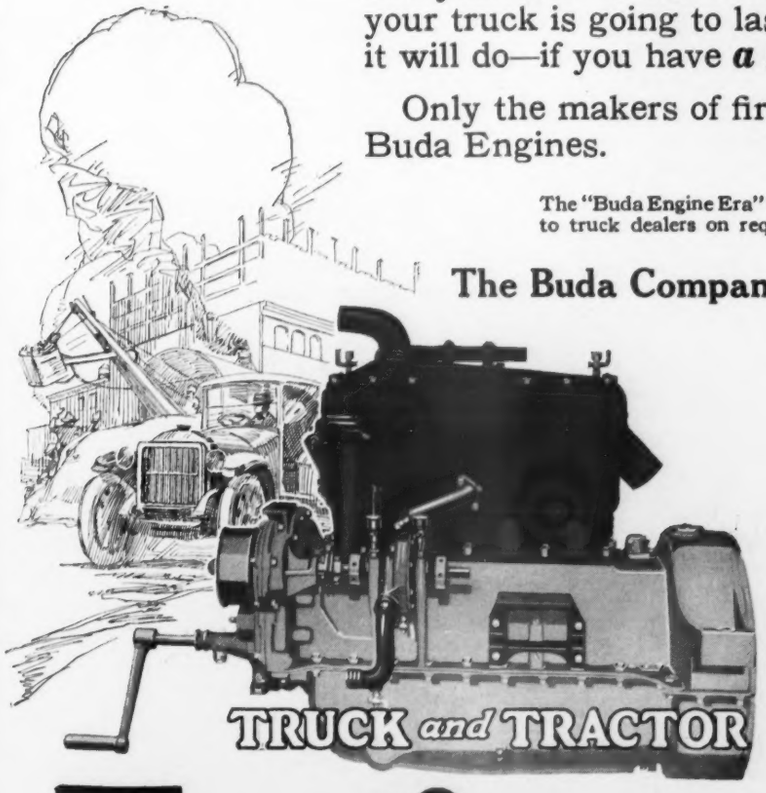
Buda heavy-duty power is not spasmodic nor fitful—it is stubborn, and dogged, and long lived.

Certain things in this world may worry you, but you don't have to worry about how long your truck is going to last or how much work it will do—if you have ***a Buda Engine.***

Only the makers of first-class trucks can get Buda Engines.

The "Buda Engine Era" will be sent regularly to truck dealers on request. Write today

The Buda Company, Harvey (Chicago Suburb), Ill.



See our exhibit of several new Tractor Engines at the Kansas City Tractor Show. February 24th to March 1st.

Engines

Motor Truck Saves Over $1,000 per Month on Western Ranch

By I. BILLINGTON

ACCORDING to T. G. Young, of Seattle, Northwest distributor of Mack and Service trucks, it doesn't take much talking to sell a good truck to a live Western farmer who collects all the data he can find on how the truck operates for betterment of the farmer, figures how much money he can make by motorizing his farm, talks to his neighbors about truck performance and operating costs—and having decided what truck to buy—comes in and buys it.

"All the sales arguments and catalogues in the world won't sell a farmer a truck he doesn't want," says Young. "Most of my customers were sold by seeing the truck in actual operation on neighboring ranches and hearing their neighbors boasting of accomplishments.

"I remember one case in particular," he continued, "which has brought me more orders than any other circumstance in all my sales experience.

"M. J. McMillan, who owns a three thousand acre wheat ranch near Walla Walla, was in the market for a truck, but the steep grades and bad roads on his ranch proved to be a Waterloo for three different truck salesmen, each of whom in turn went out to demonstrate for Mr. McMillan and each of whom came back declaring that the McMillan ranch was no place for a truck and expressing their belief that McMillan would have to keep on using horses for the rest of his natural life.

Sells Truck After Unsuccessful Attempts of Three Rivals

"One of my salesmen sold McMillan a Service truck after a successful demonstration," said Young, "which was some triumph after three rival trucks had fallen down, but even so I was unprepared for the numerous sales McMillan was destined to secure for me in that territory.

"Being a progressive farmer who kept his accounts in a business way, McMillan knew exactly where he stood at the end of every month and never tired of telling how his truck was saving him over a thousand dollars a month.

"Before he bought his truck he used five teams of four mules each to make two trips per day, carrying an average of 200 sacks of wheat per trip or 400 sacks daily. The investment in this case was represented by:

5 wagons @ $150	$750
10 sets of harness @ $60	600
10 teams of mules @ $500	5000
Total	$6350

"The truck made nine trips per day, carrying an average of 48 sacks of wheat per trip, or 432 sacks daily. The cost of the truck was only $3450, or a little over half the price of the former equipment."

The accompanying figures also compiled by Mr. McMillan, giving comparative costs of operation, depreciation, etc., between five mule teams and one truck are especially interesting as showing the enormous advantage of using motor equipment on a modern farm.

Cost of Mule Teams per Month

5 drivers @ $5 per day	$750.00
Feed @ $20 per day	600.00
Interest on $6350 @ 8% (per month)	42.34
Depreciation at 10% (per month)	52.92
Total	$1445.26

Cost of Motor Truck per Month

1 driver @ $7 per day	$210.00
Gas @ $4.50 per day	135.00
Oil @ 50c. per day	15.00
Interest on $3450 (per month)	23.00
Depreciation at 15% (per month)	43.12
Total	$426.12



Physical Disability is no Handicap to This Truck Enthusiast

One of the most successful users of motor trucks in the East is E. J. Martin, of Hartford, Conn., who at present employs a three and a three and a half ton worm-drive truck. Martin, who has been an expressman for many years, lost his right leg while unloading a barrel of vinegar at a grocery store. Notwithstanding this handicap, he drives one of the trucks himself, and has covered all the Eastern and Middle Atlantic States. He recently completed a trip to Richmond, Va., with a load of household goods. He has been very successful in obtaining return loads. His average charge is $1 a mile and he has all the work he can handle. Cleanliness of men and equipment is a characteristic of the Martin service.

Pittsburgh Plans Comprehensive Association

PITTSBURGH, Jan. 16.—An association planned to bring together all representative business men in the various branches of the automobile industry, has been organized at Pittsburgh. Under the name of the Motor Trades Association it will include garages, dealers in electrical appliances, tires and rubber goods, accessories and oil and gas, as well as men engaged in automobile construction and repair.

Protection of its members against abuses still prevalent in the trades, the securing of fair and equitable state and municipal legislation, the regulation of business hours according to proper standards and an endeavor to maintain agreeable relations between dealer or repair man and customer are some of the functions to be exercised by the organization.

Republic Motor Truck Co., Alma, Mich., is preparing to establish a plant in Windsor, Walkerville or Toronto, Canada. Burrel D. Jones has left the position of sales manager of the company to undertake the management of the new plant. Production of 1-, 1½- and 2-ton trucks will be started as speedily as possible at the Canadian plant.

